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PAPER TRADE JOURNAL

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Vol. LXXXV, No. 6 AUGUST 11, 1927 Per annum $4.00 Per Copy 10 Cents

ZELLSTOFFFABRIK WALDHOF

MANNHEIM-WALDHOF
GERMANY

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Ragnit (East Prussia)
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Daily Capacity

800 Tons
Bleached
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Sulphite Pulp

Sole Agents for the U. S. A.

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INCORPORATED

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American Tissue Mills also use E B G Liquid Chlorine

THE American Tissue Mills are operated along sound and efficient lines. In keeping with this progressive policy bleaching solutions are made from E B G Liquid Chlorine. The result? Liquid Chlorine has eliminated time and labor wastes . . . *has improved the quality of the product.*

It is another credit to Liquid Chlorine's account . . . an unbroken record of success since E B G pioneered in producing this essential paper chemical.

E B G SERVICE includes abundant production facilities and container equipment, of course; expert engineering counsel in the use of Liquid Chlorine which would naturally be expected of the pioneer manufacturer. But beyond these a service which is much more comprehensive than the usual conception. Investigation will reveal the significance of this.

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Electro Bleaching Gas Co.

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Entered as second class matter August 13, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1872 FIFTY-SIXTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., E. Stroudsburg, Pa. EXECUTIVE AND EDITORIAL OFFICES: 10 EAST 39th STREET, NEW YORK CITY. CHICAGO: 123 West Madison Street, Chicago, Ill.

—and in many Paper Mills

Philadelphia
SPEED REDUCING UNITS

-are daily saving Power and Money

Philadelphia Speed Reducers permit the use of Standard (high speed) motors, which are initially cheaper and have a higher "power factor" than slow speed (special) motors. Another great advantage—Philadelphia Units are made in every Gear Driven Type. This assures you of exactly the right unit for each particular requirement, and offers Straight Line; Right Angle, or Vertical Drive.
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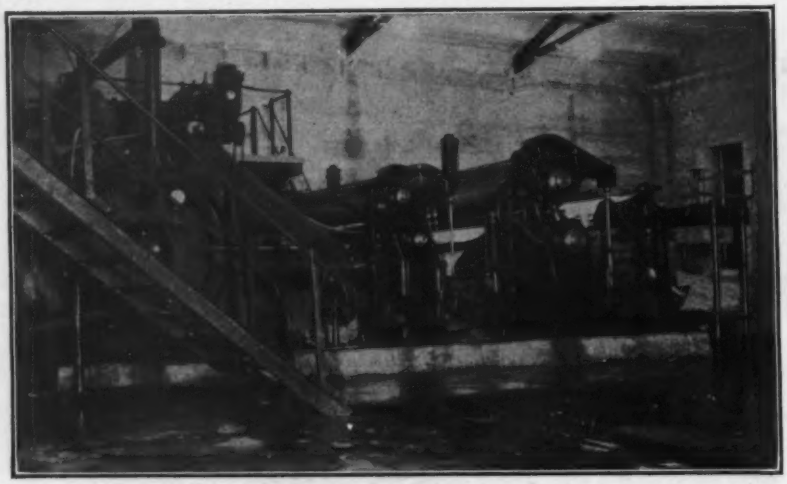

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100 tons dry Sulphite or Sulphate or 50 tons Ground Wood per 24 hours. Over fifty per-cent AIR-DRY.

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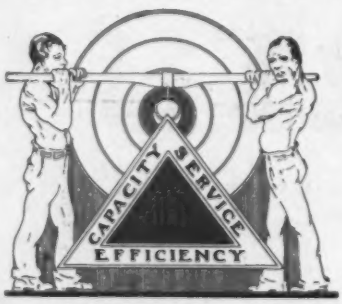

We will gladly refer you to mills using the Fulton System and making the same grade of paper as you. They will tell you their experience with the Fulton System.

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"KW"

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A Sturdy, Economical Valve for 125 lbs. W. S. P. ... Designed for rough use in oil, water and some chemical lines.

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One of the largest mills in Japan

all use

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They screen FASTER and CLEANER than any others.

Yet they cost no more to buy.

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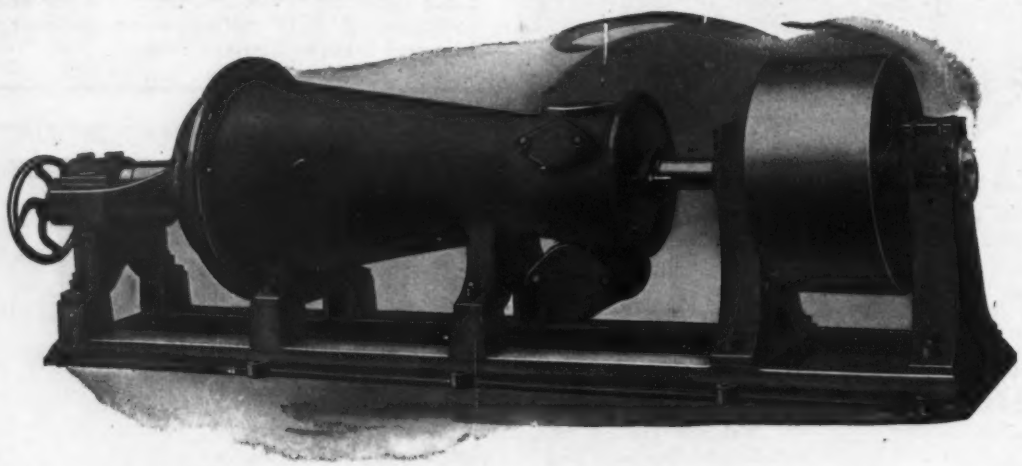
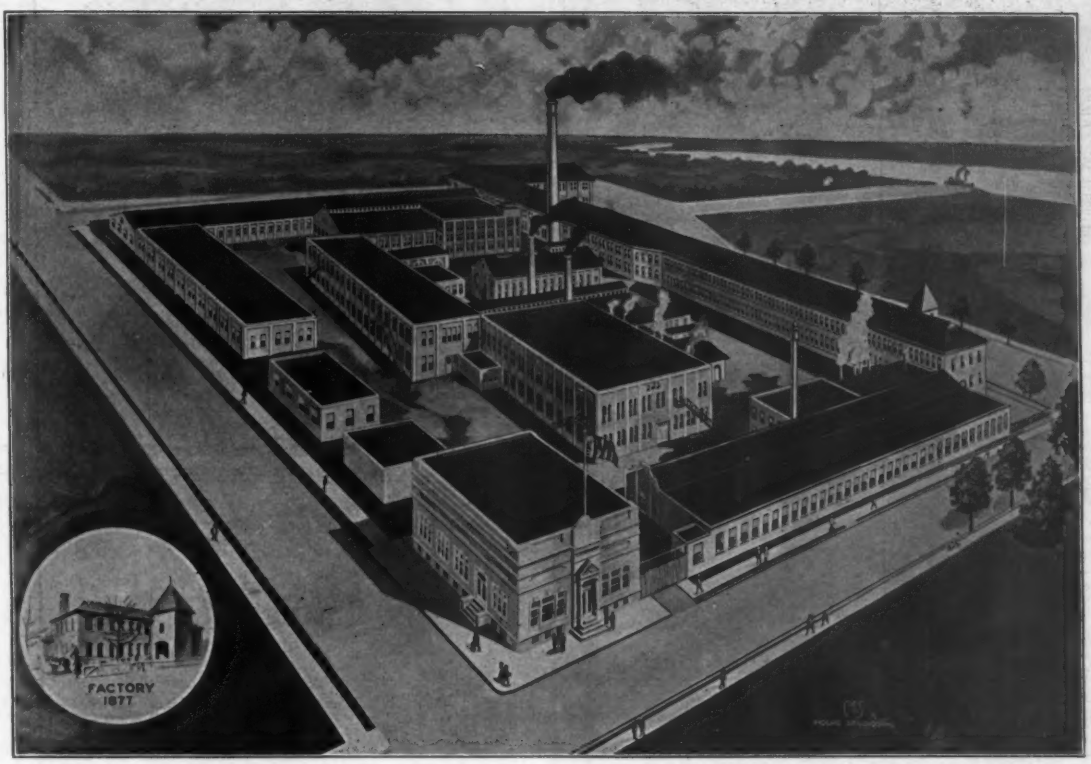


NO. 60 JORDAN ENGINE



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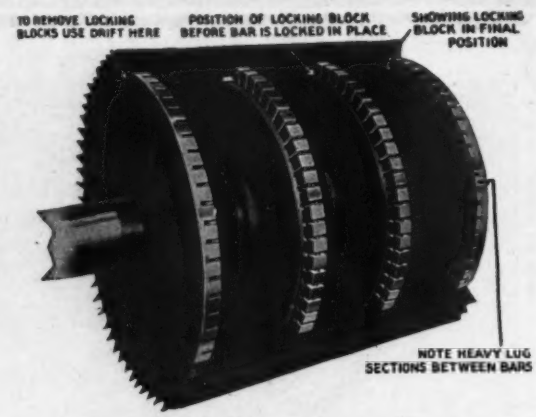
TO REMOVE LOCKING BLOCKS USE DRIFT HERE
POSITION OF LOCKING BLOCK BEFORE BAR IS LOCKED IN PLACE
SHOWING LOCKING BLOCK IN FINAL POSITION
NOTE HEAVY LUG SECTIONS BETWEEN BARS

DAYTON *High Speed Beaters*

The Choice of 64 Mills

The Managements in 64 well known paper mills have chosen Dayton High Speed Beaters over all others. They decided in favor of Daytons after careful comparison of beater performances. Their decisions were based on the Dayton's outstanding ability to handle larger furnishes faster, on savings in power, and on the highly uniform quality of the output.

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Heavier Furnishes
Faster Beating
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More Uniform Product
Saving in Power
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We Rest Our Case on Performance

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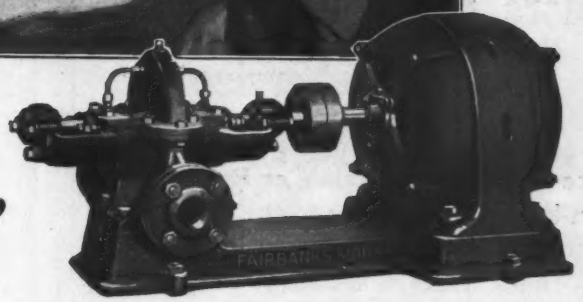
The Dayton Beater & Hoist Co.

Dayton, Ohio

The hydraulic laboratory of the 30-acre F-M pump factory, the home of "Unit-Built" pumping equipment



"Unit-built" *means* perfect balance

It is the *overall* efficiency of a pumping unit that counts—the efficiency of *both* pump and power unit.

That is the advantage of Fairbanks-Morse "Unit-Built" pumping equipment—both pump and driving unit are taken into consideration in the design and perfectly balanced to each other by Fairbanks-Morse engineers.

An excellent example of this is found in the *ball-bearing* pumping unit illustrated above. Not only the pump, but also the motor driving it, is equipped with ball bearings. Since Fairbanks, Morse & Co. assume full responsibility for both the pump and the motor, the user is assured that the combination is exactly suited to the range of service for which it is recommended.

Fairbanks-Morse Pumps—centrifugal and reciprocating—cover a wide range of paper mill pumping requirements. Their operating records reflect the unsurpassed manufacturing facilities, and their efficiency attests the wealth of experience accumulated in building successful pumping equipment for practically all industries where pumps are essential.

Fairbanks-Morse
Equipment for Paper Mills
- Stock Pumps
- Centrifugal Pump and Motor Units
- Power and Steam Pumps of All Standard Types
- Ball-Bearing Motors
- Diesel Engines
- Fairbanks Scales

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APA 18.7

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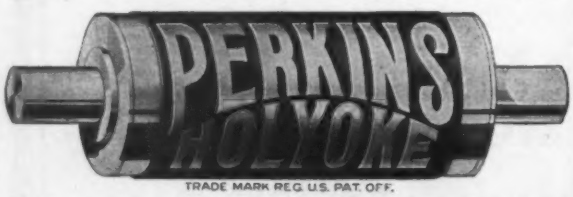
Calender Rolls

More than Fifty Years Successful Service

Since 1873 Perkins Calender Rolls have been known with favor to the paper industry. They have been designed and built to meet the exact requirements of paper makers. Perkins Calender Rolls have marked individuality because of special methods of manufacture that these long years of service in this field have developed. Perkins Calender Rolls are uniform, resilient and resistent, the three essentials most important to the paper manufacturer.

Perkins Calender Rolls stand heat better and wear longer. They are made in the world's largest Calender Roll plant in which have been developed special mechanical processes for preparing filler stock, which means uniform and long life to the product.

B. F. Perkins & Son, Inc., Holyoke, Mass.



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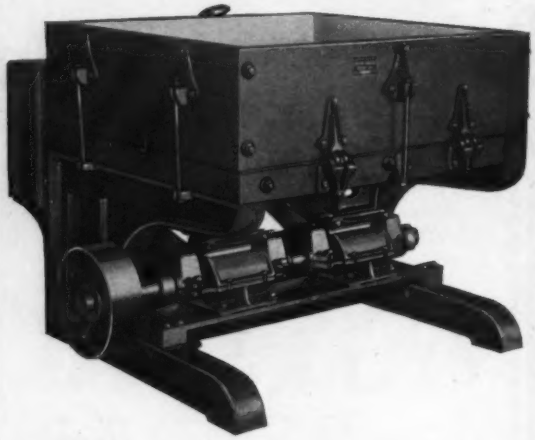
"Repeat Orders Are the Best Indorsement"



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For Rotary Screens on Paper Machines

Give your Rotary screens a chance. This little screen will remove all rejects of the Rotary and return good stock to the chest.

Small, low (only 4 ft. floor to top of vat) and highly efficient. Not a makeshift but a specially designed screen for the job. Made only in one size—4 plate.

Let us quote you on this efficient piece of equipment.

GREEN BAY BARKER
Machine & Tool Works
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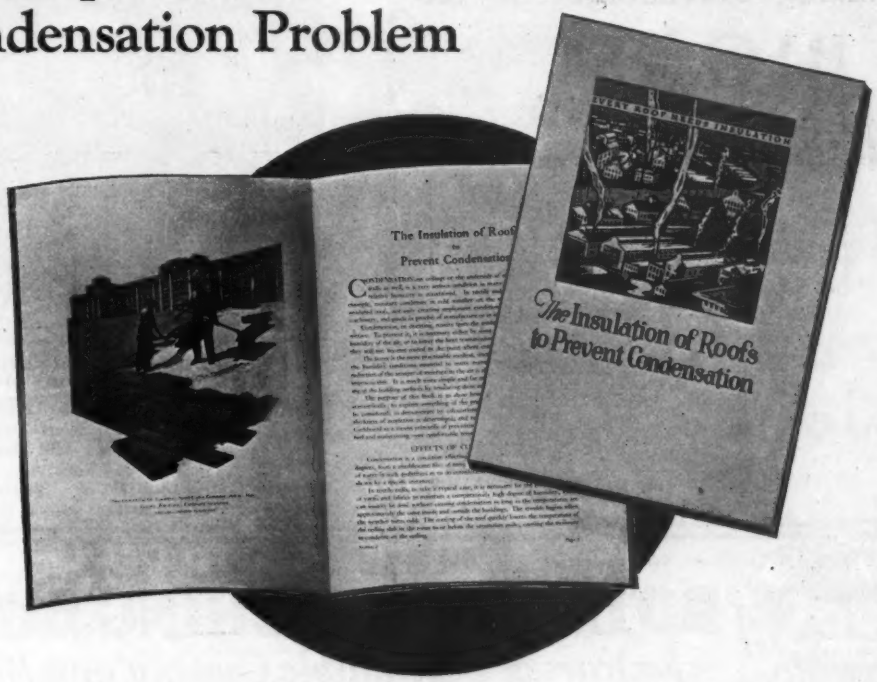
"Machinery Manufacturers"

CORK INSULATION Helps Solve the Condensation Problem

This Book Tells How~



In this Book:

1. An easy-to-use chart for determining the exact thickness of insulation necessary to prevent condensation under any given conditions.

2. A roof-resistance table giving the resistance to heat transmission of various types of roofs, WITH and WITHOUT insulation.

3. Detailed specifications for the insulation of roofs.

CONDENSATION of moisture on the ceiling can be greatly reduced, and in most cases, entirely prevented, by insulating the roof deck with Armstrong's Corkboard in the proper thickness. By retarding the heat flow through the deck, cork insulation keeps the temperature of the ceiling above the dewpoint and, either stops condensation completely or, in the most extreme conditions, helps materially toward its elimination.

"The Insulation of Roofs to Prevent Condensation" is a book that will interest every mill executive who has to contend with condensation. In addition to general and specific information, it contains valuable heat-resistance tables and a chart for determining the necessary thickness of insulation.

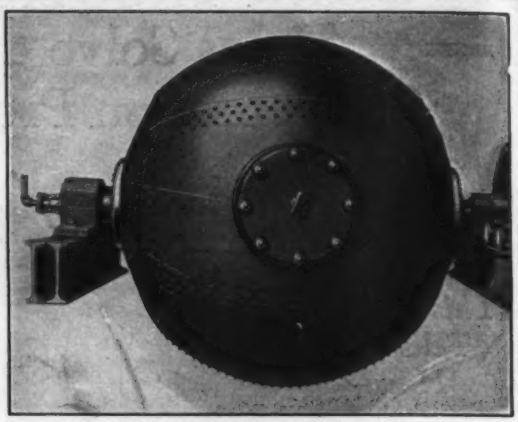
The book will be sent free on request. Write to Armstrong Cork & Insulation Company (*Division of Armstrong Cork Company*), 217 Twenty-fourth Street, Pittsburgh, Pa.; McGill Building, Montreal, Quebec; Sardinia House, Kingsway, London, W. C. 2, England. Branches in all principal cities of the United States.

Armstrong's Corkboard Insulation

for the Roofs of All Kinds of Buildings

5 Outstanding Advantages of the BIGGS *Cold Bleaching* Engine

1. FASTER, more economical bleaching
   (*Concentrated solution treated under pressure*)
2. Cold bleaching at high densities
   (*Handles consistencies up to 35%*)
3. Lower chemical consumption
   (*Closed retort saves chlorine*)
4. Over-hydration eliminated
   (*Absence of excessive agitation*)
5. Less power per ton bleached
   (*4 tons per hr. with 6 to 8 h.p.*)



Biggs Cold Bleaching Engine
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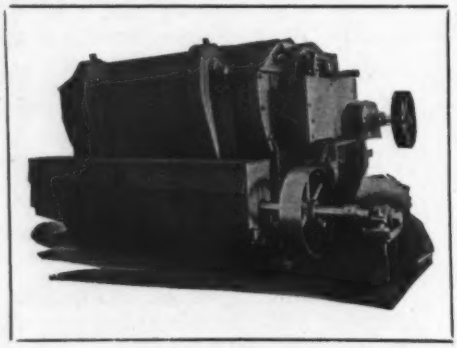
ROTARY BLEACHING BOILERS
for Years of Dependable Cooking and Bleaching

1885



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CATALOG ON REQUEST

1927

33

Mills answer "Here" with Vertical Dryer Systems

12 *of them with more than one installation*

1915	Gardner & Harvey Co., Middletown, Ohio .....Paperboard	1919	Beveridge Paper Co., Indianapolis, Ind. .....Paperboard	1924	H. F. Watson Co., Erie, Pa. .....Felt	1925	Franklin Board & Paper Co., Franklin, Ohio.....Paperboard
1915	Chesapeake Corp., West Point, Va. .....Paperboard	1919	Cincinnati Paperboard Co., Crescentville, Ohio.....Paperboard	1924	North Star Strawboard Mills, Quincy, Ill.....Strawboard	1925	Cincinnati Paperboard Co., Lockland, Ohio.....Paperboard
1915	Lawrence Mfg. Co., Lawrence, Kansas .....Paperboard	1919	Port Huron Sulphite & Paper Co., Port Huron, Mich...Pulp	1924	U. S. Gypsum, Gypsum, Ohio .....Paperboard	1925	Waldorf Paper Product Co., St. Paul, Minn.....Paperboard
1915	National Folding Box, New Haven, Conn.....Paperboard	1919	National Folding Box, New Haven, Conn.....Paperboard	1924	Beckett Paper Co., Hamilton, Ohio .....Rag Cover	1926	Ranier Pulp & Paper Co., Shelton, Wash.....Pulp
1916	Mattagami Pulp & Paper Co., Smooth Rock Falls, Ont...Pulp	1920	Consolidated Paper Co., Monroe, Mich.....Paperboard	1924	Gardner & Harvey Co., Middletown, Ohio.....Paperboard	1926	Michigan Carton Co., Battle Creek, Mich.....Paperboard
1916	Container Corp., Chicago, Ill. .....Paperboard	1920	MacSim Bar Paper Co., Otsego, Mich. .....Paperboard	1924	Gardner & Harvey Co., Middletown, Ohio.....Paperboard	1926	Longview Fibre Co., Longview, Wash. .....Kraft Board
1916	Spanish River Pulp & Paper Co., Sault Ste. Marie, Ont. .....Pulp	1920	Richardson Co., Lockland, Ohio .....Paperboard	1925	Champion Coated Paper Co., Hamilton, Ohio.....Paperboard	1926	Auglaize Box Board Co., St. Mary's, Ohio.....Paperboard
1916	Beveridge Paper Co., Indianapolis, Ind. .....Paperboard	1921	Thames Board Mills, Ltd., Purfleet, Essex, Eng....Paperboard	1925	Consolidated Paper Co., Monroe, Mich. .....Paperboard	1927	Ohio Boxboard Co., Rittman, Ohio .....Paperboard
1917	Consolidated Paper Co., Monroe, Mich. .....Paperboard	1921	American Coating Mills, Elkhart, Ind.....Paperboard	1925	Beveridge No. 2 Mach., Indianapolis, Ind. .....Paperboard	1927	Natl. Paper Products Co., Port Townsend, Wash...Kraft Board
1917	Port Huron Sulphite & Paper Co., Port Huron, Mich....Pulp	1923	Richardson Co., Lockland, Ohio .....Paperboard	1925	Mattagami Pulp & Paper Co., Smooth Rock Falls, Ont...Pulp	1927	Gray's Harbor Pulp & Paper Co., Gray's Harbor, Wash.Pulp
1917	Japanese Paper Industries, Tokyo, Japan.....Paperboard	1923	United Paperboard Co., Peoria, Ill. ..... .009 Straw	1925	United Paperboard Co., Peoria, Ill. ..... .009 Straw	1927	Fort Wayne Corrugated Paper Co., Hartford City, Ind..... .....Paperboard
1919	Midlakes Paper Co., St. Josephs, Mich. .....Paperboard	1924	Richardson Co., Lockland, Ohio .....Paperboard	1925	Michigan Carton Co., Battle Creek, Mich.....Paperboard	1927	Beckett Paper Company, Hamilton, Ohio.....Rag Cover

There's a reason. Ask these mills. They will tell you of savings made, of better, more uniform drying, of decreased coal consumption, lessened floor space, and of the increased production that helps to make the General Manager's job an easy one. It will pay *you* to get next—to let us tell you the complete story of Vertical Dryer Systems.

THE BLACK-CLAWSON COMPANY
HAMILTON, OHIO

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VERTICAL DRYERS

Built with Machine-Tool Accuracy

Uncle Jake says—

"The ladder of life is full of splinters but they always prick the hardest when we are sliding down."

Most of the splinters we encounter in business are caused from rubbing the wrong way of the grain.

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KVP BOND PAPER

you are rubbing the right way of the grain. The white clean sheet gives a very pleasing touch to your correspondence, and in this way brings back to your counter satisfied customers, which proves that in the long run appearance counts for much.

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HAS BEEN DEFINITELY CONQUERED
TENAX FELTS
WILL NOT AND CANNOT STRETCH

TENAX

THE STRONGEST AND MOST DURABLE *FELT* MADE IN THE WORLD.

WE STAKE OUR REPUTATION ON *TENAX FELTS* AND TO ALL WHO ARE NOT USING THIS NEW FELT, WE ADVISE A TRIAL.

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STEEL BELT LACING

The Salt of Belting

THE extremely long life of Alligator Steel Belt Lacing and the quick, simple application have made it the most generally used belt lacing in the world.

An important item, Alligator Steel Belt Lacing! Small in cost, but like salt in food, it seasons the service. Most belt troubles start at the joint. But with Alligator the teeth clinch through the belt end, compressing it in a vise-like grip of steel. This powerful grip forestalls trouble and makes it "the strongest belt lacing on earth."

In the sectional steel rocker hinge pin (patented) the oval faces rock on each other taking up the wear. The two sections are held in position by lugs that engage the loops. Nearly every supply house, belting house and hardware store has a selection of the eleven sizes to fit your belts. Standardize on Alligator Steel Belt Lacing for satisfaction in service.

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This trade mark registered at U. S. Patent Office and throughout the world, is now being die stamped on
every section of Alligator Steel Belt Lacing except sizes No. 00 and No. 1.

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UNIFORM IN QUALITY—ESSENTIAL FOR STRENGTH

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For Quality Papers Use

A-1 BLEACHED SULPHITE PULP

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J. ANDERSEN & CO.

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Kenwood TANNED Felts

are treated by patented chemical processes to counteract the deteriorating effects of water, alkali and acid.

This treatment results in a longer maintenance of the natural elasticity and resilience of the wool fibre, better running performance, higher water removal, and quicker functioning.

An explanation of this tanning treatment and its results has been issued in Kenwood Bulletin No. 29. A reprint of this bulletin will be mailed on request.

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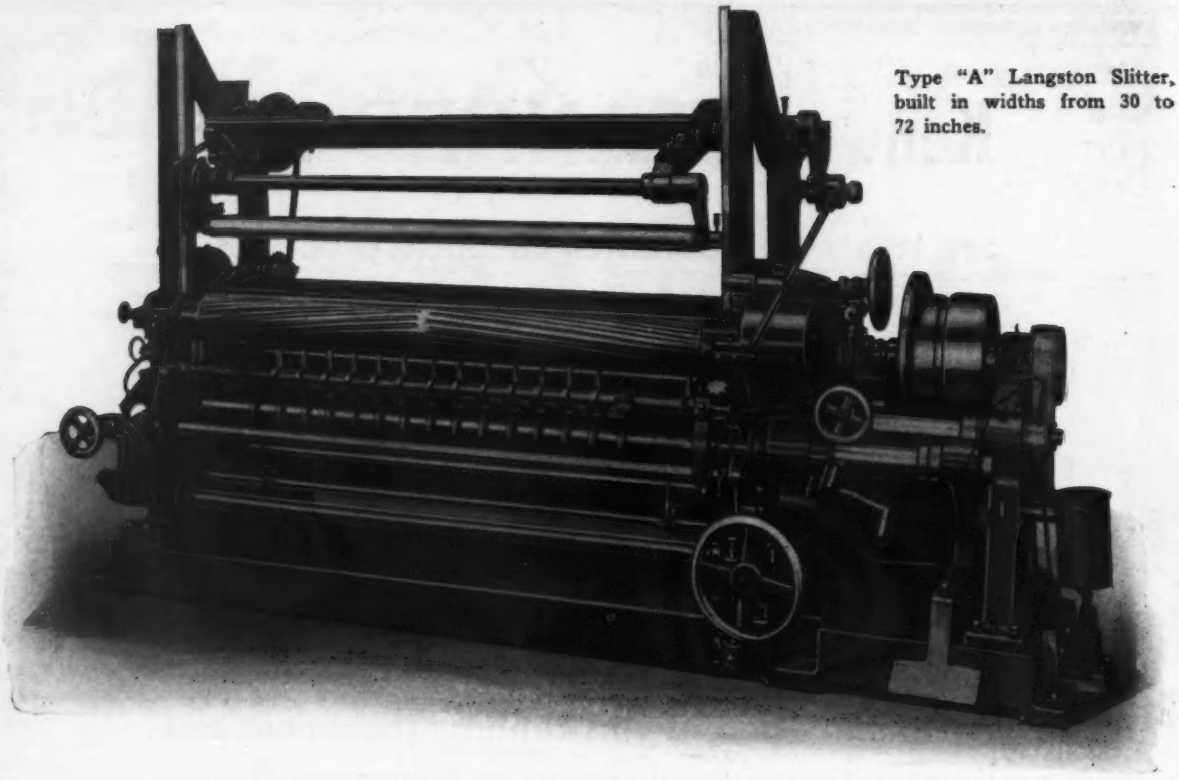

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If your customers want *dustless rolls*—

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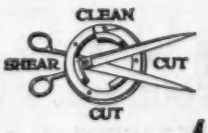
Rolls made on a Langston are dustless. The Langston Shear-Cut principle makes a cut the same as that produced by a pair of shears. A clean, sharp cut. The rolls are smooth, even, free of any trace of dust or lint.

Trouble arising from dust getting into cash register or adding machine mechanisms, or clogging type faces, is never experienced when the rolls are made on a Langston.

No wonder so many mills whose customers need and insist on dustless rolls, use Langston Slitters, saving themselves much trouble due to complaints and rejections, and keeping their customers satisfied!

SAMUEL M. LANGSTON COMPANY, CAMDEN, NEW JERSEY

A. H. Cox and Company, Seattle, Washington.



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Better Rolls—
Greater Production—
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A thoroughly efficient machine capable of slitting wide materials into a number of narrower widths or many narrow strips, is a valuable addition to modern factory equipment where rolls of paper or board of any kind are required in the manufacture of the articles there produced, or where material in roll form is produced for sale to others who utilize it.

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61 POPLAR STREET BROOKLYN, NEW YORK

PAPER TRADE
ESTABLISHED 1872
JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

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Eighty

Years of Specialization

1927 marks Dowd's eightieth year in the business of knife-making. These have been eighty years of specialization; the *sole* product of Dowd has been knives and every effort has been directed toward high quality. Today Dowd numbers among its regular customers many of the largest and most discriminating paper mills in America and we believe that this concentration (or specialization) upon *one* product has been the major factor in gaining and holding their patronage. They have found Dowd Knives dependable and of uniform quality year in and year out; they have found that dollars and cents savings is not always a matter of original purchase price, but rather of the efficiency at which knives operate over long periods.

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MAKERS OF BETTER CUTTING KNIVES SINCE 1847

BELOIT, WISCONSIN

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXV, No. 6 PAPER Thursday, August 11, 1927

Northwest Pulp & Paper Co. Completes Plans

Specifications Are Submitted to Engineering Contractors by B. T. McBain Who Will Have Charge of the Company's Activities—Pulp Mill Will Be Equipped With Jenssen System, Five Digesters and Ruths Accumulators—Widely Experienced Men With the New Company—Will Be Thoroughly Modern Plant

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 5, 1927.—The Northwest Pulp and Paper Company has completed plans for the proposed new plant at Astoria, Ore., according to B. T. McBain, Oregonian building, Portland, who is interested in promoting the company's activities. The specifications have already been submitted by Mr. McBain to a selected list of engineering contractors, and it is expected that the figures will be in by August 10 or thereabouts.

Power and Mill Equipment

The pulp mill will consist of a 150-ton Jenssen acid system; five large sulphite digesters; pulp drying equipment of the latest design; high pressure boilers and electrical generators, and it is also planned to install the latest thing in the way of steam reservoirs supplied by the Combustion Engineering Company, known as the Ruths accumulator.

The digesters will be 16 feet in diameter by 50 feet high and will produce 13 to 14 tons each per cook. The boilers will be rated about 500 horsepower each for 400 to 450 pounds pressure, with 200 degrees superheat. The steam as planned will pass through two 1,000 K. W. steam turbines and the extracted steam at 125 pounds pressure will go to the digester, the drying equipment and the Ruths accumulator.

Vance P. Edwards With New Company

Vance P. Edwards, formerly chief sulphite engineer of the United States government forest product laboratory at Madison, Wis., will be mill manager and general superintendent of all mill operations in Astoria. His position will include all research work in an efficiently equipped laboratory which will be part of the plant equipment.

The company will own and operate its own sawmill, capable of cutting 500,000 feet in a 24-hour day, and the waste from this mill when cutting hemlock and spruce will be used as pulp wood for the sulphite pulp product as well as for hog fuel to supply the steam for the pulp and by-products plant.

Engineering in Charge of B. T. McBain

Both the construction and management engineering will be under the supervision of Mr. McBain.

The city of Astoria has agreed to bring water from Young's River, a distance of about ten miles, and has contracted with the paper company to supply pure water for its operation. Stevens and Koon, hydraulic engineers in the Spalding system, Portland, prepared the plans for the water system.

In connection with the announcement of plans for this plant it is stated that many new departures from the usual sulphite mill will be included in the construction, and that the plant when completed, will not only be the lowest production cost plant on the Pacific Coast, but it will also rank among the highest in grade of sulphite paper produced.

Henry M. Ford, chief construction engineer, formerly of Wisconsin, but recently of Chicago, will be in direct charge of actual construction work. Mr. Ford has at different times been connected with the paper mill engineering firms of L. A. DeGuere, V. D. Simons, G. W. Mead, and was for a number of years with E. P. Gleason, chief engineer of the Nepco Mills in Port Edwards and Nekoosa, Wis.

To Be Located at Young's Bay

The Northwest Pulp and Paper Company is to be located on a site known as Young's Bay where Young's River enters into the Columbia. It is on a property formerly occupied by the Young's River Lumber Company and the war-time shipyard of the McEachern Shipbuilding Company.

In connection with this project it is said that the owners have ordered unusual attention to provisions for comfort for the employees, both men and women, and the rooms for dressing and recreation will be of the finest equipment.

Charles R. Flint of New York, president of the company, is expected to visit the Pacific Coast during construction which it is stated will start as soon as possible after the award of contracts.

Officers and Executives

As previously stated in articles of incorporation, officers and directors of the Northwest Pulp and Paper Company besides President Flint are C. W. King, executive with Dupont & Dunham; A. J. James, B. T. McBain, director, vice-president and general manager; C. W. Fulson, director and secretary; W. M. Masphail, civil engineer; Robert T. Jacobs, tax counsellor; H. C. Wechsler, Myron M. Robinson and Daniel Mungall, directors; A. V. Allen, director and vice-president; Frank Patton, Amedee M. Smith; Charles W. Miller, assistant treasurer O. W. R. & N. Co., Portland.

While exact figures on the cost of the plant are not available as yet, it is expected that the amount will total a million or more.

Corner Brook Mill Negotiations Progressing

Premier Monroe Introduces Resolutions in Legislature to Confirm Agreements Between Newfoundland Government and International Paper Co., Regarding Proposed Operations Within Island—Plans for Future Expansion.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., August 8, 1927.—In the Newfoundland Parliament, Prime Minister Monroe announced during the week details of the proposed agreement between the government and the International Paper Company, whereby the latter agrees to take over and operate the property belonging to the Newfoundland Power and Paper Company at Corner Brook, and also agrees to construct and operate a paper manufacturing plant on the Gander River with a daily output of 200 tons. A request of the company for 4,000 miles of timber land in Labrador was refused. After hearing the details the House adjourned for a week in order that the proposed agreement might be considered.

It is understood that if the agreement goes through it will mean the expenditure each year of $3,500,000 and an addition to the federal revenue of $1,500,000 in addition to very considerable amounts which will be paid by the operating company. It is also estimated that employment will be provided for 2,000 men.

The Corner Brook mill is one of the most modern and best equipped in existence. It has five news print machines, with a capacity of 800,000 pounds per day and 40,000 pounds of wrapping paper. The pulp capacity is 720,000 pounds of ground wood, and 220,000 pounds of unbleached sulphite fiber per day. Around it has been built a model city, which now has a population of over 5,000. The company intends, it is stated, to place the mill in charge of E. A. Charlton, who has represented the International Paper Company's interests in Newfoundland for the past eight years.

In regard to the financing of the company, the following details are credited to a reliable source: The financial position up to the present time is that the Newfoundland Power and Paper Company was capitalized at $41,500,000. Of this, $5,000,000 was held by the Bank of England as a short-term loan, $10,000,000 were known as "A" debentures, sixteen years, held by the British Government; $10,000,000 were "B" debentures, 20 years, held by the Newfoundland Government; and the remaining $16,500,000 were "C" bonds, issued by the Newfoundland Power and Paper Company and guaranteed by the Armstrong-Whitworths.

Under the option now held by the International Paper Company, the latter will take care of these by assuming the "A" and "B" debentures held by the British and Newfoundland Governments, respectively, the maturity date of which is to be extended to 1973. They will also assume a liability of $2,500,000 that is owing to the Bank of Montreal, and $10,000,000 of 5 per cent preference stock non-accumulating. In addition a bond issue of $20,000,000 will be placed, of which $5,000,000 will be a prior lien bond, $5,000,000 will be used to purchase two new paper machines, while the remaining $10,000,000 will be applied as working capital.

Other Newfoundland Developments

Meanwhile the Anglo-Newfoundland Development Company has prepared plans for the improvement of its mills at Grand Falls, Newfoundland. This includes a large water power development scheme, part of the power to be harnessed to be used for mining purposes, in connection with the operations of the American Smelting and Refining Company, which has certain mining rights on the Anglo-Newfoundland property, and is stated to be well pleased with the rich ores that have been found. The company has six news print machines with a combined capacity of 580,000 pounds of news print per day.

No Overproduction of News Print

Following up a statement by Edward Beck, secretary of the Canadian Pulp and Paper Association, that there is no over-production of news print in Canada at the present time, the Canadian Bank of Commerce, in its Monthly Commercial Letter, says that Canadian mills have not experienced any serious difficulties, adding:

"They have operated at about 85 per cent of their rated capacity, a decline of about 10 per cent, in comparison with last year's record, but, with the new mills brought into operation, and the additions to existing plants, they produced during the first six months of this year 102,000 tons of paper more than in the corresponding period of last year. The shipments during the past half year were about 90,000 tons in excess of those in the first six months of 1926, most of it going to the United States, which absorbs about 90 per cent of the Canadian production.

"The situation regarding pulp and kraft paper has not been as favorable as that respecting news print, as our exports of all classes of these products show reductions as compared with those in the first half of 1926. The United States has used less of these materials with the exception of sulphate, and has drawn more heavily on Canadian pulp wood and European pulp, but the curtailment of the output of the Scandinavian mills should help Canadian producers.

"The construction of new mills has largely been centered in Canada, and, as only the latest types of machinery have been installed in this country, the plant in Canadian mills is, generally speaking, almost entirely new. The importance of this factor may be estimated when it is considered that the most recently designed wood grinders, electrically operated, turn out fully three times as much pulp as those in older mills, with a saving in labor costs of 50 cents to $1 per ton, and that the paper making machines which are now being installed have a capacity of 100 to 150 tons per day, as compared with those manufactured less than ten years ago, which were capable of making 50 tons per day.

"No one conversant with the world-wide situation entertains any doubt as to the future of the Canadian pulp and paper industry when the full force of the advantages it enjoys is felt in other countries. Within the next six months the rated capacity of Canadian mills will be increased by 950 tons per day, but six of the nine new paper machines to be installed will not be operated until January, 1928. The record of the Canadian producers during the past six months is a creditable one and if, during the coming period of more intense competition, they are able to maintain their operations on the present scale there should be no serious effects for, while many individual mills would still be compelled to work five days out of six, production at 85 per cent of capacity in any form of industry is not regarded as unsatisfactory."

Manitoba Limits Disappointing

The Hon. Charles Stewart, Minister of the Interior, states that the survey of the timber limits of the Manitoba Pulp and Paper Company is proving very disappointing, and indicates that the total will be about 4,000,000 cords instead of the 6,000,000 that had been the minimum estimate.

Aside from that, however, Mr. Stewart, who visited the plant at Pine Falls last week, thought that the new paper mill was progressing wonderfully, and he was very enthusiastic over the manner in which the townsite had been built up.

There has been no word yet of anyone asking for the White Mud Falls power site, Mr. Stewart stated, although he believed certain interests were in the East at the present time trying to arrange for backing.

Speaking of the situation over the Spray Lakes power site, in Alberta, Mr. Stewart thought that Albertans would be much

farther ahead to develop electrical power from coal, since there are such quantities in the province, and electricity could be manufactured just as cheaply from coal as from water power. The latter suggestion also would mean more employment, he considered, and would not spoil any of the natural beauties of the approach to the Banff National Park.

Grand Falls Development

The Saint John River Power Company, a subsidiary of the International Paper Company, is making good progress on the hydro-electric development at Grand Falls, New Brunswick. Work has begun on the coffer dam for the main dam, on the forms for the concrete lining for the pressure tunnel, and on the erection of the steel penstocks. Three units of 20,000 h.p. each will be the initial installation in the power house.

Of Personal Interest

Lawrence Killam, president of the British Columbia Pulp and Paper Company, has returned from Japan, where he has been investigating the market for his company's products.

John Wolstenholme, managing director of Charles Walmsley & Company, of Bury, England, manufacturers of paper machines, has acquired control of the company through the purchase of the stock recently held by Sir W. G. Armstrong-Whitworth & Co., Ltd.

Development Work on Hoquiam Pulp Plant

[FROM OUR REGULAR CORRESPONDENT]

HOQUIAM, August 1, 1927.—The three million dollar pulp mill of the Grays Harbor Pulp Company is rapidly being initiated, and, with the completion of a railroad spur with which to supply the construction crew with materials, actual work on the buildings will begin.

The first unit of the plant to be constructed will be a 114 x 332 foot warehouse of a one story height. Piling is now being driven for a fill that will be made by a harbor dredge. Other plant units will follow consisting of a filter building of concrete and steel construction, 80 x 90 feet, a digester building 120 feet in height and 34 x 90 feet; ground dimensions, an 80 x 200 foot screen room, a hogged fuel storage building, acid plant, boiler house, power house, acid recovery tanks, machine room, 56 x 322 feet and a sulphur storage building. In addition to these, and included in the main group will be a large chip storage room. To one side of the plant will be constructed a huge stack to carry away power plant smoke.

The construction program also includes a 600-foot wharf and loading platform and a chip dump into which will be dumped the chip material coming by railroad from outside sources. The plans also entail, at a later date, the construction of a chipping plant for the conversion of mill waste and logs into pulp material.

The construction work is being done by Chris Kuppler & Sons, of Seattle and Port Angeles. They already have a large force at work, but expect to augment their crew to 300 or more as the work gets under way. There are now three pile drivers employed in sinking foundation piling for all units of the plant. A night driving crew will be hired to catch up on the foundation work in order to keep up with the construction schedule, it was announced. This mill is expected to be ready to commence operations around the first of next year.

Fort Wayne Paper Mills Busy

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., August 8, 1927.—The Vincennes, Ind., plants of both the Fort Wayne Paper Company and the Indiana Board and Filler Company, are operating at capacity and officials of both companies say the past six months have been among the best in the history of their businesses.

At the Fort Wayne Paper Company plant, the increase in business has necessitated the addition of new machinery which will increase the daily production to five tons. The business has been so rushed for several weeks it has been ncessary to work Sundays.

Canadian Paper Exports Increase

According to the report issued by the Canadian Pulp and Paper Association, the exports of pulp and paper in June were valued at $16,054,682, an increase of $1,900,559 over the previous month.

Exports of wood pulp in June were valued at $4,994,507 and exports of paper at $11,060,175, compared with $3,744,223 and $10,409,900 in the month of May.

For the various grades of pulp and paper details are as follows:

	June, 1927		June, 1927	
	Tons	$	Tons	$
PULP:				
Mechanical	33,054	1,040,587	36,834	1,128,136
Sulphite Bleached	25,701	1,949,662	19,804	1,537,048
Sulphite Unbleached	19,141	1,021,691	19,673	1,124,842
Sulphate	15,961	945,537	14,308	900,548
Screenings	2,004	37,030	.....	.....
	95,861	4,994,507	90,619	4,690,574
PAPER:				
News Print	159,495	10,442,651	141,889	9,371,495
Wrapping	1,344	154,743	1,597	189,024
Book (cwts.)	16,472	103,355	4,643	40,545
Writing (cwts.))	1,070	8,406	3,055	21,536
All Other	.....	351,020	.....	373,951
		11,060,175		9,996,551

For the first six months of the year the total exports of pulp and paper were valued at $85,009,814, as compared with a total of $82,866,995 in the corresponding six months of 1926, an increase for this year of $2,142,819.

The total value of wood pulp exports in the first six months of the year was $22,707,157 and exports of paper $70,302,657, as compared with $25,112,602 and $57,754,393, respectively, in the corresponding six months of 1926.

Details for the various grades are as follows:

	Six months, 1927		Six months, 1926	
	Tons	$	Tons	$
PULP:				
Mechanical	109,933	3,235,578	154,084	4,533,846
Sulphite Bleached	118,811	9,279,844	99,571	7,788,473
Sulphite Unbleached	94,633	5,185,989	133,357	7,576,896
Sulphate	81,386	4,926,437	83,564	5,213,387
Screenings	948	79,309	.....	.....
	408,711	22,707,157	470,576	25,112,602
PAPER:				
News Print	1,050,822	59,034,180	818,103	53,931,484
Wrapping	8,004	910,804	9,696	1,227,846
Book (cwts.)	46.940	332,683	24,821	216,000
Writing (cwts.)	7,963	65,806	9,764	72,963
All Other	.....	9,959,184	.....	2,306,100
		70,302,657		57,754,393

Exports of pulpwood for the first six months were 837,876 cords valued at 8,087,173, compared with 625,454 cords valued at $5,991,-068 for the first six months of 1926.

Watching Efforts for Lower Coal Rates

GLENS FALLS, N. Y., August 8, 1927.—Industrial firms in the Glens Falls area are following with much interest the efforts of the International Paper Company to force lower rates on coal from the anthracite regions of Pennsylvania to Glens Falls. The matter has been before the Interstate Commerce Commission for several months and is now awaiting decision. The decision will, it is expected, have an important bearing on coal rates to other industrial communities served by the Delaware & Hudson Railroad Company.

An examiner for the Interstate Commerce Commission who made an investigation recommended to the commission lawer rates to Corinth, Fort Edward and Glens Falls where International mills are located. Contentions of the I. P. Co. in regard to excessive charges were upheld by the examiner.

The D. & H. Co. later in its answer filed with the commission takes exception to some of the examiner's recommendations and declared that the lower rates, if ordered as recommended, means that the railroad company stands to lose several hundred thousand dollars annually in revenue. It is claimed that half of the business of the railroad is from anthracite coal movements and it was stated that business concerns south of the Albany district as far as Easton, Pa., are awaiting the commission's ruling so that if the decision is favorable to the International Paper Company other industrial firms along the road may demand lower rates also.

Demand for Paper "Spotty" in Philadelphia

Broader Scope of Activity Developing in Fine Paper Market—Active Request Experienced for Coated and Uncoated Book Papers—Seasonal Conditions Continue in Coarse Paper Section—Wrapping Division Outlook

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 8, 1927.—While the past week, with its cooler temperature, was more active in some branches of the paper trade, orders were continued along the line of hand to mouth type of purchases. Inquiries for future deliveries for the Fall supply of papers in all branches of the coarse and fine paper markets were frequent, indicating that there is some attention towards preparation for resumption of activities among many industries during the current month in anticipation of the autumn's needs in the manufacturing and mercantile trades.

Fine Papers More Active

As August begins, the fine paper market is assuming a broader scope of activity among the printing and publishing concerns. Larger volumes of coated and uncoated book papers are being sought under contract, and the wholesale merchants report a more active demand than at this season in the previous year. Distributors are still confined to the narrow margins of hand to mouth type orders, but these are growing in number.

Manufacturing stationers are preparing for the autumn resumption of activities in the general industrial world, and are placing orders for various grades of papers used in the manufacture of bookkeeping and accounting supplies. Greeting card producers are now showing their samples of holiday designs and have in turn been placing orders with the paper houses featuring card stocks.

Those dealers carrying a line of papeteries, or manufacturers' representatives with local branches, are now enjoying a wider range of orders for the standard boxed grades of papers and the choice of holiday offerings that are being featured in displays, and are ready for shipment in mid August or early September. There has been a limited interest shown by the stationers in the holiday offerings throughout the summer, but with the past week a livelier demand was experienced for the Christmas numbers, with a wide range in variety of colorful effectiveness in papers and boxings for gift giving purposes.

Spotty Market For Coarse Grades

There has been more activity in many grades of coarse papers, but the orders have become spotty in character, indicating the uncertainty of the consumer, and his day to day operations in the business world. While broader activity has been noted in this division of the industry, the demand continued to be of a seasonal type with a few of the larger textile industries now purchasing in more frequent lots of specialties, but holding orders to immediate needs. This is particularly true of those larger concerns that supply automobile manufacturers with specially heavy grades of paper used in finishing, or for the textile industries where consumption is chiefly by the General Motors subsidiaries.

Wrapping paper distributors are looking forward to a gradual improvement in the market and despite the fact that present business is not as gratifying as to the immediate future, are confident of an upward swing with the advent of September and the return of vacationists. It is believed that the Fall activities in the industrial world will be later than usual owing to the uncertainty of the present business outlook, but that there will be brisker demand for paper as soon as the present political situation is clarified.

Paper Stock Supply Dwindling

That supplies of paper stock are fast dwindling was evident during the past week, when mill purchasers found that wholesalers were well cleaned out of all grades. Though the demand has been sufficient to absorb all grades of both common and higher qualities, prices have remained unchanged. Rag dealers, on the other hand, are complaining of lagging interest in their wares, and of the cut-throat policies that have demoralized the market. Ropes were lower, while some grades of gunny were higher, as were wool tares. Few of the stocks were moved, despite the lower values. Most of the purchases were for domestic grades, imported stocks being so slow in demand that it is not worth while handling at the close profits to which they now are subjected.

Mills Show Improvement

Paper mills in the immediate vicinity of Philadelphia have been broadening operations and are busy on Fall orders. The mills, however, are not operating on the same basis as in 1926 at this time, with the exception of board manufacturers, now well sold ahead on many specialties for builders' needs and for container grades. Fine paper manufacturers are not as active with advance orders as they were at this time last year. That the mills are well sold up is apparent by the dearth of odd lot purchases available for the converters of such offerings. The larger converting houses specializing in salvaged or specially purchased tonnage lots complain of lack of supplies to meet the needs of their customers, due to no mill offerings at this time.

W. C. Hamilton & Sons New Lines

With a full time schedule of operation now enforced in the mills of W. C. Hamilton & Sons, at Miquon, the manufacturers are engaged on advance Fall orders. There has been a specially active market for the two newest of Hamilton lines, the Kilmory book papers in four colors, and the Hamilton vellum writing paper. The Kilmory is a fancy grade of uncoated book paper, made in sage, chestnut, India and white, and has proved an especially attractive number to the allied industries in the publishing and printing field. The Hamilton company is now preparing a comprehensive sample catalog of book and cover papers in the Victorian mark for trade distribution after August 15. It will be accompanied by display specimens for the dealers' use. Included will be the new Kilmory line.

Wholesale Paper Merchants Meet

Members of the Wholesale Paper Merchants Association of Philadelphia met at the Poor Richard Club during the week, and decided to adjourn sessions until September, when the annual election of officers will be held. President Frederic S. Balche announced that owing to the absence of the majority of members on vacation, the August sessions would be omitted. The organization has been in existence for one year and already has 90 per cent of the wholesalers in the trade in its ranks.

Walworth Co. Disposes of Local Branch

The Walworth Company, of Boston, Mass., manufacturers of pipe fittings, valves and tools, announces the sale of its Philadelphia branch at 241-247 Arch street to McArdle & Cooney, Inc., steam supply jobbers, with headquarters at 519 Arch street. The sale was effective last week when McArdle & Cooney, Inc., took possession of the Arch street property, and assumed ownership of the Walworth stocks of brass iron body and steel valves and fittings, pipes and tools. The Walworth Company established its Philadelphia branch in 1919, when it purchased the property of the Hunter & Dickson Company, jobbers in similar supplies to those manufactured by the Walworth Company. The Walworth products, including valves and other supplies for paper mill

equipment, will be distributed through McArdle & Cooney, Inc., in this territory.

Paper Manufacturer Wills Large Sum

Through the recent death of Elias Heilbron, who was associated with his brother in the paper manufacturing business in the Philippine Islands, a former Philadelphian, Charles Milton Kauffman will inherit a considerable portion of his extensive estate. Mr. Kauffman, who lives at 1236 North Sixth street, is a nephew of the paper manufacturer, whose death occurred in Tampa, Fla., and will inherit one third of the estate, amounting to $200,000. A brother, Joseph P. Heilbron, who was associated with the decedent in the paper manufacturing concern, and is a resident of the Philippines, where the mills are located, will also share in the estate, along with August Kauffman, a brother-in-law, of Chicago. According to the will the property must not be sold for two years.

Typothetae Plans Sales Classes For Paper Men

Paper salesmen and printers are now enrolling for instructions in the course of lectures and practical classes in salesmanship featuring graphic arts products, which will be conducted by the Philadelphia Typothetae during the coming winter. Under the direction of the U. T. A. Marketing Committee, a series of meetings are to be held throughout the winter season, and will comprise practical lessons in sales of printed matter and paper. Those who are interested from trade ranks will enroll in the Sales Club, formed under the Philadelphia Typothetae, through the direct supervision of William A. Meeks, managing director of the local master printers' organization, and with Norbert A. Considine, president of the Paper House of Pennsylvania, chairman of the paper men's division, and Leonard A. Peck, sales manager of the Paper House of Pennsylvania, as chairman of the entertainment committee of the Sales Club.

Exploits Atlantic Bonds

The Coach, the official publicity organ distributed jointly by the Boorum & Pease Manufacturing Company, Sanford Manufacturing Company, C. Howard Hunt Pen Company, and the Eastern Manufacturing Company, and printed in this city at 139-141 North Juniper street, has begun an advertising campaign on the Atlantic bond among the stationers through its pages. The July-August issue, just out this week, contains several pages devoted to the uses of Atlantic bond in the printing and stationery field. *The Coach* reaches the stationers scattered throughout the United States and Canada and is distributed free as a sales magazine through the various firms combined in its publication.

D. L. Ward Co. Ready For Graphic Arts Exhibit

Having compiled from the large group of national contributors to the Direct Mail Exhibit, which has been featured at the D. L. Ward Company headquarters, 28 South Sixth street, a selection of the fifty best specimens of mail campaigns during the past five months, that enterprising paper house is now ready to place on display the 1927 Exhibit of the Graphic Arts Group of a half hundred picked winners of the best printed matter issued throughout of the past year. A committee comprised of William Edwin Bridge, chairman, New York; Maurice Weyl, Edward Stern Company, Philadelphia; Carl J. Anderson, Franklin Printing Company, Philadelphia; and Ellsworth Geist, Eddy Press Corporation, Pittsburgh, has been chosen to select the fifty best specimens of printed matter which will be featured as the 1927 Graphic Arts Group of winners, to be judged in the month of September.

The Graphic Arts displays for this year were opened at the Ward headquarters during the week. Following the selection of the best specimens, which will comprise the group, the exhibits will be sent out to various paper houses scattered throughout the nation for temporary display. The first paper house to be favored with the exhibit outside the Ward Company of this city is that of Henry Lindemeyer Sons, 32 Bleecker street, New York.

Hooper Paper & Twine Co. In New Quarters

An announcement has been sent out to trade associates and customers of the Hooper Paper and Twine Company, informing them of the removal of the firm to newly constructed quarters in the building owned by Sylvester S. Garrett, paper dealer, at 270 South American street. The Hooper Paper and Twine Company completed removal to its new home during the past week and is now ready to serve its patrons in the greatly enlarged quarters devoted to the wholesale distribution of paper and twines. With the settlement of the Hooper Company in the building there are now several firms either directly linked with the paper trade or its allied industries in the converting branch conducting their business in this paper center structure.

New Orleans To Be Great Paper Center

NEW ORLEAN, La., August 1, 1927.—The availability of raw materials, superior facilities and easy access are reasons why New Orleans in the next five years should be one of the greatest paper-making centers in the country, Colonel W. H. Sullivan, vice-president and general manager of the Great Southern Lumber Company of Bogalusa and chairman of the Louisiana Reconstruction Commission, explained to the delegates of the Members' Council Association of Commerce.

"Your Industrial Canal forms the finest location in the world for the industries manufacturing paper, for on its banks you have ample acreage, ideal conditions for getting the raw materials to the plant and for shipping and distribution of the finished product," he declared.

"The great coal fields of Alabama, the fuel source, are in easy reach with cheap water transportation right at hand. Then you have the virgin pulp producing forests of Louisiana, and along the gulf coast from Florida to Texas and along the bayous emanating from the chain of lakes in this part of the state, virtually at your door. Reforestation in which Louisiana is leading the world, is gaining every day, and the young trees, before many years have passed will be ready for paper making and lumber cutting. This work is restoring the vast forests of Louisiana and making permanent for the paper industry its main item of supply. Fine grades of bookpaper, Kraft and other kinds, I hope soon to see stamped with the 'Made in New Orleans' slogan."

Colonel Sullivan then briefly told of the plans the Reconstruction Commission is working upon for the rehabilitation of the flood-stricken areas of the state. He said that arrangements for the extension of state credit to those parishes whose sources of immediate revenue have been destroyed by the flood are being discussed, and when the whole plan is evolved it will be submitted to a state convention. If sanctioned, then a special session of the Legislature will be called to put it into effect. The schools alone in the state will need over $500,000 to get back into running order, Superintendent Harris had informed him, he said.

The Great Southern Lumber Company donated $10,000 as a working sum for the Reconstruction Commission, Colonel Sullivan said. No contribution to the Red Cross was made, he said, because it was realized that money to cover the cost of operation of the Commission was going to be immediately needed and would serve practically the same ends, so it was turned into this channel.

The speaker praised the industrial guidance and leadership put forth by the business men of New Orleans.

He invited the delegates to be the guests of the Company on a visit to Bogalusa in October.

St. Joseph Paper Co. To Take Over Mill

KALAMAZOO, Mich., August 8, 1927.—The St. Joseph Board and Paper Company, capital $100,000, has filed articles of incorporation with the secretary of state. The concern plans to take over the Mullin Brothers mill at St. Joseph and engage in the manufacture of paper board.

The officers of the company are M. L. Hurwick, president and treasurer; C. E. Nicely, vice president and general manager; A. Hurwick, secretary, and O. L. Roy, superintendent.

The mill is equipped with four 1,000 pound beaters, two Jordans and one 90 inch four cylinder, widest trimmed sheet, 81 inches. The production will be lined box boards, plain chip and straw chip, 80,000 lbs. 24 hours.

Nicolet Mill to Manufacture Glassine Paper

Remodeling and Modernizing Work at Former American Writing Paper Mill Practically Completed—Two New Machines, Made by Rice, Barton & Fales, to Begin Operating Before End of Month—Additional Equipment Installed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 5, 1927.—One paper machine will be in operation next week and a second one later in August at the plant of the newly organized Nicolet Paper Company, DePere, Wis., according to announcement made by H. C. Hanke, general manager. This mill, formerly in the American Writing Paper Company chain, has been idle for six months while it was being converted to the manufacture of glassine paper.

Nearly all of the extensive remodeling work has been completed by a crew of seventy men which has worked diligently under the direction of Mr. Hanke. The mill is now considered as modern as is possible. All of the old wooden floors in the machine rooms have been replaced with concrete, the boiler house has been gone over thoroughly, and other parts of the large plant have been placed in order for operation.

The two machines which will turn out glassine paper were made by Rice, Barton & Fales. Dryers used in the former American Writing mill are being retained. The additional equipment includes four new Cameron re-winders, three Norwood Engineering Company supercalender stacks and fourteen beaters equipped with stone rolls. The finishing room supercalenders and re-winders all will be electrically driven with current furnished from a new generator just installed. Water will be obtained from three wells located on the property.

All coal for the mill is to be shipped to the company's dock by Great Lakes boats, the first cargo having arrived last week. Upwards of 100 men will be employed steadily.

New Conservation Law in Effect

Wisconsin's new conservation law, which will be of importance to the paper industry, has gone into effect, following affixing of the signature of Governor Fred R. Zimmerman to the bill. Hereafter the conservation commission will consist of six non-salaried members who will look after the interests of reforestation and other phases of this work.

Members appointed to the commission are: William Mauthe, Fond duLac, Wis.; E. M. Dahlberg, Ladysmith, Wis.; F. L. Gilbert, Madison, Wis.; O. C. Lemke, Wausau, Wis.; Eugene Wengert, Milwaukee, Wis.; and A. W. Icks, Green Bay, Wis.

With the passage of a companion law removing property taxes from lands devoted to the growing of timber, and affixing a severance tax instead, the commission will have within its control the matter of preserving the northern Wisconsin forests, and providing for the growing of new timber on cutover lands. The commission also will take drastic steps to prevent forest fires, the present cause of a large annual waste of timber.

Wisconsin's rapidly receding timber supply, and especially the prediction that all virgin timber will be cut within thirteen years, has been a matter of concern to the paper industry. The new legislation is expected to check the forced slashing of the forests and preserve the wood pulp supply for a sufficient period so that new timber can take its place.

Kimberly-Clark Outing Planned

This year's Labor Day picnic of the Kimberly-Clark Company is to be held at Niagara, Wis., where one of the largest mills of the Kimberly-Clark group is located. The picnic was formerly held in one of the mill cities of the Fox River Valley, and the plants participating will be those of Niagara, Neenah, Appleton and Kimberly, Wis. Several thousand employees and their families will take part in the outing, as the result of special transportation arrangements which the company is making so that all can reach the northern Wisconsin city. A number of interesting events are being planned, including a contest of skill among the fire departments of the various mills. M. G. Hoyman, superintendent of the service department, is in charge of the arrangements.

Rag Storage Warehouse Addition

Construction of a large addition to the rag storage warehouse has been started by the Whiting-Plover Paper Company, of Stevens Point, Wis. The contract has been let to C. R. Meyer and Sons Company, of Oshkosh, Wis. The building will be 50 by 130 feet in size, extending east from the present rag room. Its height will be three stories, but will contain only one floor.

Fancy Writing Paper Situation

Manufacturers of fancy writing paper either must find new methods of popularizing this product or turn to some other product, according to a statement made by George Barnes, secretary of the Gilbert Paper Company, of Menasha, Wis. Mr. Barnes traced this trend of the industry while making an address before the Lions Club of Appleton, Wis. He finds that there is a marked decline in the use of fancy stationery, because women no longer write the number of letters that was customary in the past. The necessity of watching changing styles and fancies was stressed by Mr. Barnes as one of the essentials of progress in industry.

Housing of Power House Workers

Several homes are under construction by the Northern Electric Company, subsidiary of the Northern Paper Mills, of Green Bay, Wis., to house the families of men who will be employed at the new Chalk Hills and White Rapids power plants near Amberg, Wis. The houses will be of English, Spanish, and colonial design, and will be provided with running water, sewage, and telephone and electric light. A school building costing $8,000 also is being built for the benefit of the children who will reside in this locality.

The scene along the Menominee River has been changed materially through construction of the two large dams and power houses. Rosebush lake has been created by backing up the river waters, and a landscape gardener is designing a summer colony there to be known as "Northern Balsams." The grounds will be laid with a beautiful shore line, drives, walks, flower gardens, shrubbery and playgrounds. County authorities also are building new roads to give convenient access to this new locality. It is expected that a large area of new farming country will be opened up as a result of this development.

Miscellaneous News of the Industry

Foremen and superintendents of the Wisconsin mills of the Consolidated Water Power and Paper Company held their annual picnic this week at Wisconsin Rapids, Wis. A baseball game between Appleton and Wisconsin Rapids groups was won by the latter. Officials from these cities and Stevens Point and Biron were present at the outing.

A life sized oil painted portrait of William Gilbert, late president of the Gilbert Paper Company, Menasha, Wis., has been hung in the lobby of the Manufacturers' National Bank of Neenah, Wis. The portrait was a gift of Mrs. Gilbert. Mr. Gilbert was president of the bank at the time of his death in January, 1926.

Henry Burgee, who was in the sales department of the Neenah Paper Company, Neenah, Wis., for several years, has resigned. He has gone to Millers Falls, Mass., to become associated with the sales department of the Parsons Paper Company.

274 repeat orders

In this country alone, 425 Vickery Felt Conditioners have been sold, of which 274 represent repeat orders.

Could stronger evidence be submitted as to the profitableness of the investment?

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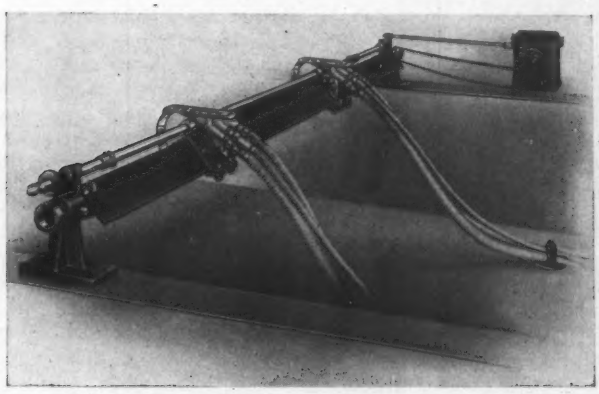


The Vickery Felt Conditioner

1156

Los Angeles Paper Demand Seasonably Quiet

Conditions Generally, However, are Satisfactory and Prospects are Encouraging for an Active Resumption of Business About Sept. 1—Representative Box Manufacturers are Busy Preparing For Big Fall Demand—Wrapping Division Expected to Improve

[FROM OUR REGULAR CORRESPONDENT]

LOS ANGELES, Cal., August 1, 1927.—The paper industry, as far as Southern California is concerned, is experiencing the dullness at present usual to the mid-summer season. There is only a fair volume of business being done at present, just enough to keep the jobbers encouraged since the volume is not markedly lower than it was at this season of the year during any one of the five years just passed. This seasonal recession marks practically every department of the paper business. Most of the buying, too, smacks of the hand to mouth variety and no one shows any marked disposition to stock up in advance. This, too, is a usual seasonal characteristic and excites scarcely a comment.

A good many of the Los Angeles executives have just been away on their vacations, or are away at this time or are getting ready to go during the coming thirty days. The vacation period will have ended pretty generally by September 1 and practically everybody will be back at business by that time. Ordinarily business begins to pick up about September 1 and consumers of paper are beginning to think of getting in their stocks preparatory for a general resumption of business along all lines in the early fall.

Prices Unchanged

Inquiry among the jobbers reveals no indications of price changes of moment. Apparently the market in general is on a permanent basis with every indication for its remaining there for an indefinite time to come.

Box Manufacturers Busy

Several of the paper box manufacturing companies have been and continue to be busy getting out fall stocks of cartons for local retail merchants, for wholesalers in many lines and for canners and packers of fruits and vegetables, who use vast quantities of fiber and corrugated containers for packing purposes. This last is a growing trade in the far West and every year shows an increased use for paper shipping cases. Most of the manufacturers appear to be complying with the suggested standard for tests set by the wholesale grocers about a year ago and few if any complaints are heard in these days about any of the far Western made containers going to the bad in transit.

The Advance Paper Box Company, 1912 West 62nd street, reports a fair volume of business being done for future delivery. This concern specializes on fancy set up boxes and finds a ready market for its product because of the high artistic merit of its designs.

Recovering From Effects of Fire

The Los Angeles Paper Manufacturing Company, 1633 N. San Pablo street, is recovered fully from the fire which visited the plant recently. Fortunately, most of the damage was confined to the warehousing departments of the concern, hence the manufacturing operations experienced but inconsequential damage and very little delay.

H. E. Fitch, 923 E. Third street, representing the Scott Paper Company, Chester, Pa., reports a good volume of trade on tissue and towels. Apparently more and more business houses are installing paper towels as a permanent adjunct to their toilet facilities, if one is to judge by the large quantities of these utilities which are being disposed of in the far West by the concerns which handle them.

Better Outlook for Wrapping

C. F. Hockmeyer, vice president and general manager of the Golden State Paper Company, 2600 Santa Fe avenue, says that things appear certain to pick up in the near future in wrapping papers. He says the market is holding firmly at present prices, which, while too low for the most part, show no indications of going any lower. In fact, Mr. Hockmeyer is convinced that prices will show more of an inclination to advance after the fall season opens.

D. A. Fleischman, general manager for the Bates Valve Bag Company, 2001 E. 57th street, returned recently from an extended Eastern trip. While he was away from Los Angeles he spent a considerable time with the home office of the company in Chicago.

Neil B. Sinclair, 124 W. Fourth street, Pacific Coast manager for the Nashua Gummed and Coated Paper Company, Nashua, N. H., says that he has had no reason to complain regarding the volume of business he has been doing out in the far West during the last few months. In fact, he says trade has been very satisfactory.

Gates-Burns Paper Corp. Expands

Chester D. Bonestell, manager of the Gates-Burns Paper Products Corporation, 3714 Moneta avenue, says the business of his company has shown a steady increase every month during the last year. This is gratifying because the present management took hold of the business when it was in a more or less run down condition and the fact that it has been brought into such a flourishing state reflects great credit upon the managerial ability of Mr. Bonestell. A. C. Huston, engineer in charge of developing new applications of paper, has designed several new adaptations during the last few months which have proved to be very popular with the trade.

Collections still are in a fairly satisfactory condition and appear to indicate that when once business opens up in the fall there will be fewer past due accounts on the jobbers' books than has been the case for a long time past.

Empire State Foresters To Meet

ALBANY, N. Y., August 9, 1927.—The tentative program for the twenty-second meeting of the Empire State Forest Products Association at Syracuse, N. Y., October 6, is as follows:

Morning Session—10 o'clock—College of Forestry Building.

Welcome by Dean Franklin Moon, of the College; reports of the president, of the treasurer, and of the secretary; reports of standing committees; report on the study of spruce budworm; report on progress of the fire study, N. E. Forest Experiment Station; election of president, vice-president, and directors.

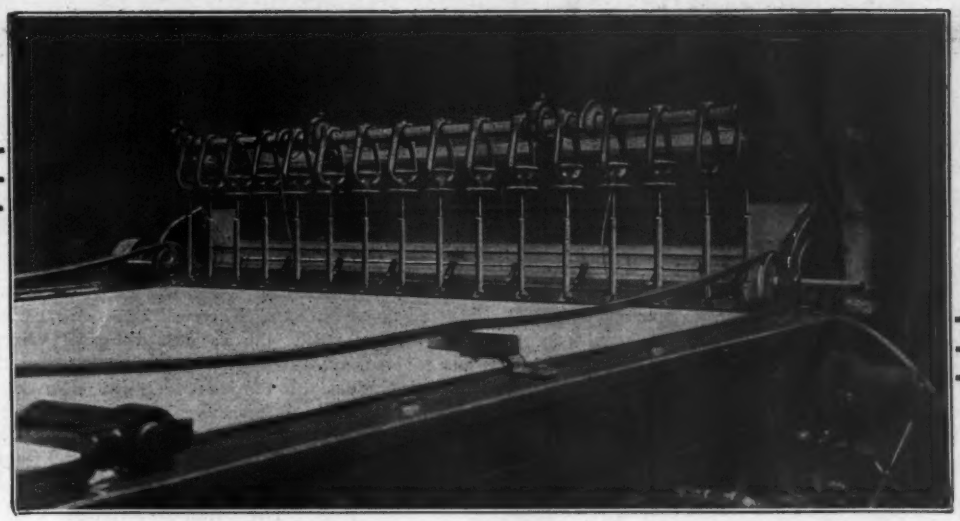
Afternoon Session—2 o'clock—College of Forestry Building.

Open meeting of the N. Y. Wood Utilization Committee. Reports of the chairman and of the secretary; reports of the project committees; progress of the National Committee on Wood Utilization. Special topic: Utilization of the Northern Hardwoods. by Director Oxholm. Recent statistics on the wood-using industries of N. Y. State, Prof. Hoyle. Address: The New York Development Association, Director Lawyer.

Evening Banquet—7 o'clock—Hotel Onondaga.

Toastmaster: President George W. Sisson, Jr. Address by Hon. Ellis Bentley, chairman Committee on Conservation, Assembly of the State of New York. Anecdotes by Rev. Hubert S. Wood, rector, Trinity Church, Syracuse. Address by Superintendent of State Forests, William G. Howard. Motion picture: "The Scenic Wonders of New York," Prof. Whipple.

The afternoon and evening meetings are open to the public, whose attendance is invited. Onondaga Hotel, Syracuse, N. Y., will be headquarters. Reservations should be made early. The banquet is informal and ladies are cordially welcome. Charge per plate is $5. For reservations address the Secretary, Empire State Forest Products Association, 1103 State Bank Bldg., Albany, N. Y.



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Paper Technologist Club Formed at Kalamazoo

Club Includes Chief Chemists and Assistants of the Paper Mills in the Kalamazoo District—Main Purpose of the Organization Is To Promote a Full and Open Discussion of Technical Subjects—Jacob Kindleberger's Interest in New Uses for Paper

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., August 8, 1927.—A new organization, known as the Paper Technologists Club, held its initial meeting Wednesday evening at the Columbia hotel and elected officers and appointed committees for the ensuing year. The club, which includes the chief chemists and their assistants of ten mills in the Kalamazoo Valley district, 25 men in all, has been formed to promote a free and open discussion of technical subjects that arise in the paper industry, also to promote a closer relationship and understanding between executives and chemists.

Acting Chairman Ivan Lundbeck, of the Lee Paper Company, Vicksburg, was made permanent chairman. Elbert Milham, of the Bryant Paper Company, was made vice chairman, and Arthur Dreshfield, of the Western Papermakers Chemical Company, secretary-treasurer.

Purpose of the Organization

Chairman Lundbeck, who had previously outlined the purposes of the organization then named the following committees: Research, Frank Wittington, Standard Paper Company; Frank Libby, Kalamazoo Vegetable Parchment Company, and J. V. B. Cox, Western Paper Makers Chemical Company; committee for standardization of analytical methods, all paper mill chief chemists; question box, Elbert Milham, Bryant Paper Company; program, Owen Callaghan, Allied Paper Mills; Carl Schneider, Hawthorne Paper Company; Charles Barton, Michigan Paper Company, Plainwell.

Mr. Callaghan gave a detailed talk on the physical testing of papers, with particular regards to the conditions under which tests give reliable results and the correlations of the different tests to each other. Elbert Milham and Frank Libby led the general discussion. The next program of the club is scheduled for Wednesday, October 5.

Finding New Uses for Paper

Conservation of the nation's food supply and the production of a grade or grades of paper that can be successfully employed in the everyday handling and shipments of varied food products is the industrial hobby of Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company.

Long before Mr. Kindleberger came to Kalamazoo he was interested in these and similar problems and when he came to head the local concern, he brought his ideas with him. As a result it was soon that the Kalamazoo Vegetable Parchment Company was making a waxed raw stock for bread wrappers, baked goods, cereals and similar commodities that should be protected from atmospheric moisture.

Kalamazoo Vegetable Parchment paper came next and this was shown to be good for the protection of everything that contains any excess of moisture or grease, such as butter, ice cream, oleomargarine, fish, lard, pork products, fresh or cured meats, even the volitile oils of coffee.

Crowned with success in that field, it naturally followed that Mr. Kindleberger became equally concerned with the preservation of fresh vegetables. This led his great organization forward to the production of a grade of paper known as K.V.P. "whalehide." This paper will not melt with water contact, but retains its fiber intact and tough when thoroughly soaked. It is a water resistent, inasmuch as it not only protects fruits and vegetables from outside elements and is good for wrapping and packing fruits, vegetables, flowers and nursery stock. This "whalehide" comes in various weights from 20 to 55 pounds per ream and in every weight used, the application of water seems to toughen the fiber, if anything.

To be sure that any action taken or any experiments made shall be along scientific lines, Mr. Kindleberger has financed a scholarship at M. S. C. There all kinds of experiments are constantly being made with various grades of waxed and parchmentized papers. This scholarship was awarded to Howard D. Brown, graduate of Purdue University. His thesis had to do with the wrapping of fresh vegetables in different types of paper. He secured his master's degree as result of that work. It is said to be the first scientific work along that line that has ever been undertaken by a local mill.

The Latest Experiment

The latest experiment along this line reported from the Michigan State College pertains to what is believed to be a successful solution of methods that will prevent sugar beets from securing pollen from the flowers of other beets and crossing the pure strain with one not so desirable.

Working with government and State College plant breeders, Mr. Brown has used the K.V.P. "Whalehide," which weighs but 20 pounds to a ream of 500 sheets, 24 x 36 inches in dimension. This paper is made into a bag, and slipped over the flower and though subjected to moisture will not dissolve, nor will the fiber break in any way. The stem of the sugar beet plant is wound with absorbent cotton to prevent any pollen bearing insects getting on the stem and the paper bag is tied securely over the cotton on the stem. Ordinary makes of paper as a rule quickly dissolve.

In past years it has been necessary for producers of sugar beet seed to find farms far removed from ones where ordinary beets are raised and to place the seed beets on these farms to prevent the mingling of pollen. The sugar beets are susceptible to all varieties of other beet pollen, even that of the most common beet. It is said that the sugar beet thus pollenized is partially sterilized and loses much of its saccharine matter.

Another Successful Expirement

Another highly successful experiment has been applied to shipping head lettuce from the Pajaro Valley Lettuce Company, Watsonville, California, to New York City. This product was packed in slatted crates, with a heavy lining of 45 pounds K.V.P. "Whalehide." The experimental car with 300 crates arrived in New York via the Erie Railroad and carefully inspected as unloaded.

Still another instance wherein "whalehide," the lightest weight, has been used successfully in the shipment of vegetables, is cited in a Detroit commission merchant who is now marketing artificially ripened tomatoes well out of season and delivering them in perfect condition. The "whalehide" is not only a preventative against rotting, but also protects healthy tomatoes in case any of the contents of the basket is bruised or crushed.

Many interesting tests have been made by placing these K.V.P. bags over corn, apples and tomatoes, as well as other varieties of garden products and fruits to eliminate cross pollenizing.

Must Constantly Seek New Markets

"It is my opinion," said Mr. Kindlebreger, "that the manufacturer who is not eternally on his toes in search of new uses and new markets for his wares, will eventually find himself hopelessly out of the running. Making new customers is the safest way to insure the steady continuance of any industry. A manufacturer, content to build up his business at the expense of a competitor, will in the end suffer the same treatment at the hands of other competitors."

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Paper Demand Reported Spotty In Toronto

General Paper Merchants, However, Are Looking For a Considerable Improvement in Business About the Latter Part of the Month—Printers Approach Eastern Section of Canadian Paper Trade Association To Have Matter of 1,000 Sheet Count Reopened

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 8, 1927.—Business in the paper line continued spotty and there are no radical changes to report in conditions. The jobbing interests are looking for trade to pick up considerably during the latter part of the month, when the holiday season is over and the big fall fairs are in progress.

The eastern section of the Canadian Paper Trade Association has been approached by employing printers within the 16th Typothetae Federation with a view to having the matter of the one thousand sheet count and the net price list, which were adopted some time ago, reopened. The printers contend that the wholesalers increased the prices, not only on broken packages but single packages as well when the change from the old long price list came into effect. The matter is now the subject of correspondence between the Typothetae and the Canadian Paper Trade Association, with good prospects of an amicable adjustment. The western section of the Canadian Paper Trade Association is, in the meantime, preparing to put the one thousand sheet count into effect throughout the western provinces among both printers and paper merchants.

The kraft market in Canada continues good and much of the exportable surplus is being consumed at home. This is borne out by the good results, which the Wayagamack Pulp and Paper Company is obtaining and which have, over the past few weeks, brought about increased prices in its shares.

Construction at Kapuskasing

Work is progressing satisfactorily on the new paper mill of the Spruce Falls Power and Paper Company, at Kapuskasing, Ont., the general contractors for construction being Morrow & Beatty, of Petersboro. Four papermaking machines will be installed in the plant. The complete electrical construction including work on the hydro-electric generating station at Rock Falls, Ont., has been awarded to the Canadian Comstock Co. of Toronto.

Will Extend Box Factory

Purchase of one hundred and thirty feet of frontage on the north side of Pearl street, Toronto, as a site for a large building to be used as a new unit of their existing factory premises, is announced by the Telfer Paper Box Company, now located on Duncan street. The lot secured is at the rear of the firm's buildings and is admirably adapted for the purposes of extension.

New Factory for London

The Progressive Corrugated Equipment Company, Ltd., which some time ago secured a charter, will shortly establish a plant in London, Ont., for the manufacture of paper boxes and it is expected that about fifty hands will be employed at the start. L. H. Schroeder, of New York city, is the president of the company, which also proposes to launch a factory in Montreal.

Peeling Season Terminates

The season for peeling pulpwood in Northern Ontario practically closes at the end of the present week. About the same amount of wood has been taken out as last year. Working conditions have been good and large shipments of wood by boat from the Thunder Bay district to points across the border are now going steadily on.

Paper Men Open Highway

The new Ferguson highway is now open between Toronto and Cochrane, Ont., a distance of five hundred miles. The vanguard of northern crusaders arrived in Toronto last week making the distance in eighteen hours. Among those in the party were Alec Dewar, of the Abitibi Power and Paper Company, Iroquois Falls, who is president of the Northern Ontario joint Boards of Trade and Frank H. Anson of the Abitibi Power and Paper Company. It is expected that a thousand motorists from the north will come to Toronto over the new highway during the fortnight of the Canadian National Exhibition, Toronto.

Safety Work Is Progressing

A. P. Costigane, of Toronto, secretary-engineer of the Ontario Pulp and Paper Makers' Association, spent a few days recently on an inspection of the pulp and paper plants at Dryden, Kenora, Port Arthur and Fort William. He was well pleased with the result of his trip and found much interest taken both by management and men in Safety work, which is making good progress in that section of the country.

Notes and Jottings of the Industry

James Thompson, of the Thompson & Heyland Company, pulpwood exporters and dealers, Toronto, and Mrs. Thompson, have returned from an extended holiday trip to Vancouver, Seattle, and various points in California.

A. P. Costigane, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, Toronto, is spending his holidays at Big Bay Point, Lake Simcoe.

W. J. Meridew, of the Charles V. Syrett Paper Company's sales staff, Toronto, has returned after enjoying a vacation at Fenelon Falls, Ont.

The late J. H. McNairn, veteran waxed paper manufacturer of Toronto, who passed away recently, left an estate of forty-one thousand dollars, which is bequeathed to his wife with provision that, upon her death, the estate shall pass to his son, Prof. W. H. McNairn.

A charter has been granted to the Davis Stationery Company, with headquarters in Welland, Ont., and an authorized capital of $40,000. The company is empowered to deal in paper goods of all kinds.

W. J. Stevenson, of New York city, who is associated with the customs department of New Zealand, was in Toronto lately calling upon the paper manufacturers in regard to prices on Canadian paper products of various kinds.

Among the callers on the Toronto trade last week was Signor A. P. Muggiani, of Milan, Italy, who is the representative of a large twine concern in that country.

Charles V. Syrett, head of the Charles V. Syrett Paper Company, Toronto, and family, are holidaying at Muskoka Beach, near Gravenhurst, Ont.

A. J. Bailey, vice president of the Thompson & Heyland Company, Toronto, and family are enjoying a motor through the eastern states.

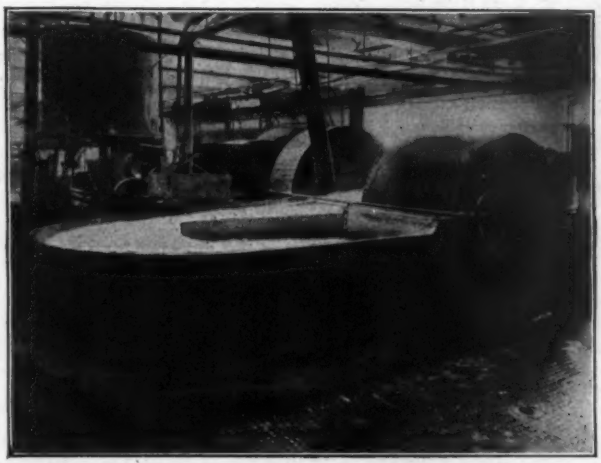
C. W. Paull, who for several years has been manager of the Hamilton branch of the United Paper Mills, Toronto, has been appointed sales manager of the firm, succeeding Charles Allen, who recently resigned. K. Walsh, for several years on the Hamilton staff, succeeds Mr. Paull in that city as branch manager.

S. F. Duncan, treasurer of the Provincial Paper Mills, Limited, Toronto, has sold his beautiful home at 293 Russell Hill Road, to Hon. Manning Doherty, the consideration being around forty thousand dollars.

MORE HISTORY!

"Simple facts not foolish statements."

CHAPTER V.



Here is an old beater rebuilt into the Dilts approved NEW TYPE. We used customer's old roll, stands, tub ends, bedplate, bedplate box, baseplate, etc. That the results were satisfactory is evidenced by orders for *six* more rebuilt beaters and *three* new beaters.

Here is another letter about Dilts NEW TYPE beating engines. This time from a mill on high grade specialty papers.

Read what they say:

"We get 2800 lbs. of finished paper out of one of your 66" x 60" NEW TYPE beaters. On Rotogravure which has a clay loading we made 4270 lbs. out of one beater. The beater traveled in good shape and the stock was thoroughly beaten. We took a reading of power on both of your NEW TYPE beaters and one showed 60 HP and the other 62 HP.

These beaters can be emptied in two minutes. Dumping is very fast, the stock will go down faster than we can get water to it. When the plug is pulled it is just as though the bottom dropped out of the beater. We have furnished and dumped three beaters in one hour and the stock was thoroughly beaten. These two beaters have been in operation more than a year now, have always proven very satisfactory and we would gladly recommend the Dilts NEW TYPE to anybody installing beaters."

Unless you, dear reader, also use Dilts NEW TYPE beating engines in your mill, it is very doubtful if you can speak as highly of your beaters as these people do. Thoughtful mill men are having Dilts rebuild their beaters to the NEW TYPE or are buying Dilts NEW TYPE to replace their present equipment because they fully realize as you must do that,

"Your paper is made in your Beaters"

Dilts

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Baltimore, Md.—The Chesapeake Paper Board Company, Key Highway and the Baltimore & Ohio Railroad, will ask bids at an early date for the erection of the proposed addition to its mill, one-story, brick, in connection with alterations and improvements in the present plant. It is purposed to provide equipment for considerable increase in present output. The entire project is expected to cost close to $75,000. William W. Kerner is secretary.

Port Townsend, Wash.—The Zellerbach Corporation, San Francisco, Cal., will proceed with plans for the early construction of its proposed local mill for the production of kraft papers, to consist of several units with electric power substation, machine shop and other auxiliary structures, estimated to cost about $2,500,000. The company will make an appropriation in this amount for the project. A preferred stock issue of 30,000 shares is now being sold, and a portion of this fund will be used for the new mill. The work will follow an expansion program during the past year which has cost close to $4,000,000. E. M. Mills is vice-president. The Zellerbach Paper Company, 34 Battery street, San Francisco, an affiliated organization, has work in progress on a new four-story extension at Pacific and Front streets, to be used primarily for storage and distributing service, estimated to cost $260,000, with equipment. Ellison & Russell, Pacific Building, same city, are architects. Practically all miscellaneous contracts have been let for the completion of the structure, including roofing, plumbing, electrical work, etc.

Attleboro, Mass.—The new mill to be erected at this place, referred to in these columns last week, will be for the American Reinforced Paper Company, and it is proposed to begin work at an early date. The structure is reported to cost close to $100,000, with equipment, and will be given over to the manufacture of special grades of paper of heavy character. A site has been selected on Starkey street. Charles T. Main, 201 Devonshire street, Boston, Mass., is engineer.

Chicago, Ill.—A building permit has been issued to the Chicago Paper Board Division of the Robert Gair Company, 420 East North Water street, for the erection of its proposed new addition at 510-28 East North Water street, consisting of a two-story structure, brick type, estimated to cost about $200,000 instead of a smaller sum previously noted. It will be used in part for expansion in the machine department, with a portion reserved for storage and distributing service. C. R. Engel, 420 East Water street, is architect. Headquarters of the parent company are at 350 Madison avenue, New York.

Stockton, Cal.—The National Paper Products Company, Church street, has scheduled September as the time for beginning erection of its proposed new addition on street noted. It will be one-story, reinforced-concrete, estimated to cost about $150,000, with equipment. It is purposed to develop considerable increase in present output. V. D. Simons, 435 North Michigan avenue, Chicago, Ill., is consulting engineer.

Philadelphia, Pa.—The Paper Manufacturers Company, Inc., Fifth and Willow streets, has engaged Clarence Wunder, 1520 Locust street, architect, to prepare plans for a proposed new addition to its mill on site recently selected at Fifth and Callowhill streets; it is reported to cost in excess of $75,000, with equipment. No date has as yet been decided when bids will be asked. F. A. O'Neill is president.

Newport, Ky.—The Specialty Envelope Company, recently formed with a capital of $40,000, is reported to be arranging the early operation of a local factory. It will be devoted to the production of special envelopes and similar products. The new company is headed by Walter and Frank Binder, both of Newport.

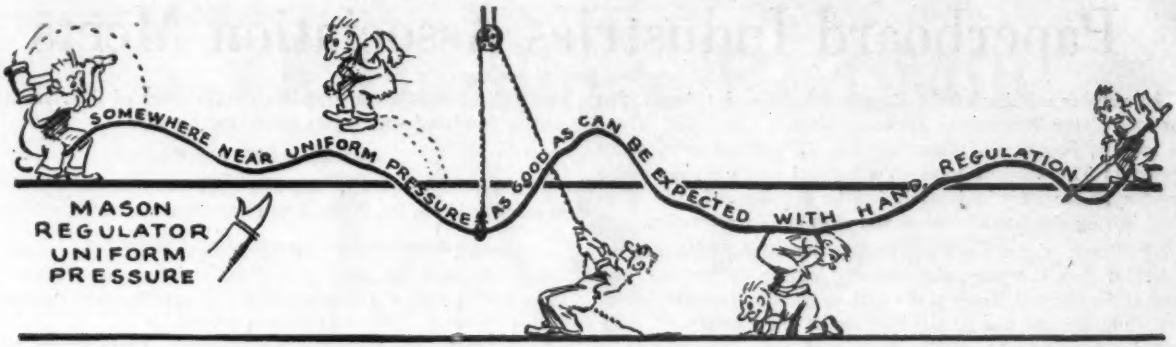
Springfield, Mass.—In connection with the acquisition of the National Papeterie Company, Springfield, by the White & Wyckoff Manufacturing Company, Holyoke, Mass., recently consummated, the purchasing company will use the property for general expansion in ope ations. The National factory will be continued at the present Springfield location for the time being, with probability later that it will be removed to the Holyoke mill, where operations will be concentrated. The White & Wyckoff organization is now giving employment to about 600 operatives at its different plants.

Rogersville, Tenn.—The International Label and Card Company has concluded negotiations for the purchase of the former local mill of the F. Y. Kitzmiller & Sons' Company, now in financial difficulties, and will use the property for a new plant. It was acquired from the receiver for the last noted concern and possession will be taken at once. The new owner will make alterations and improvements in the mill, and will install new equipment at an early date. It is purposed to develop large capacity.

Oswego, N. Y.—The Oswego Board Corporation, Oswego, N. Y., has been formed by officials of F. L. Carlisle & Co., Watertown, N. Y., to carry out the proposed paperboard mill project, referred to recently in these columns. The new company is capitalized at 50,000 shares of stock, no par value, and is represented by Sullivan & Cronwell, 51 Wall street, attorneys. It is understood that plans will be drawn for the initial units of the new mill at an early date; a site has been selected. The plant will be given over largely to the production of insulating board and is estimated to cost close to $1,000,000, it is reported, including equipment.

South Manchester, Conn.—The Rogers Paper Manufacturing Company, manufacturer of press-board for electrical service, insulating board products, has arranged for a sale of 10,000 shares of common stock to total about $460,000, a portion of the proceeds to be used for general expansion in production and operations. The company is operating two mill units on a tract of about 1½ acres of land, aggregating about 60,000 sq. ft. of manufacturing space.

Newburgh, N. Y.—The Spencer-Wynne Paper Products Company, Inc., Newburgh, recently formed with a capital of $750,000, is reported to be planning for the early operation of a local plant for the manufacture of a line of paper products. The new company is headed by Leslie J. White, 571 Liberty street, Newburgh, and Prentiss D. Wynne, 213 Ashby Road, Upper Darby, Pa. It is represented by John B. Corwin, Savings Bank Building, Newburgh, attorney.



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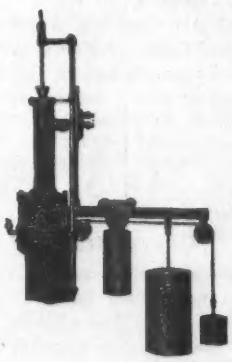
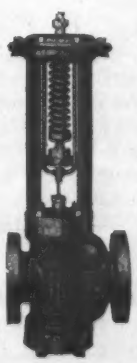


Mason Hydraulic Damper Regulator



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Paperboard Industries Association Meets

The summer meeting of the Paperboard Industries Association was held at the Westchester Biltmore Country Club, Rye, N. Y., Wednesday, July 20, and Thursday, July 21, with an excellent attendance. The sessions were so scheduled as to permit ample time for the necessary business during the morning and early afternoon, leaving the late afternoon and evening for recreation.

J. P. Brunt, of the Container Corporation of America and the Mid-West Box Company, the president of the Association, presided at the General Meeting of the three groups, Thursday afternoon, July 21, and also at the meeting of the Container Group, Thursday morning.

H. S. Hinkle, of the National Folding Box Company, presided at the Folding Box Group meeting Wednesday morning, July 20.

The Paperboard Group meeting, which convened on the afternoon of July 20, was presided over by Vice-President W. J. Alford, Jr., of the Continental Paper Company.

Election of Members to Executive Committee

T. H. Goodspeed, of the American Box Board Company, Grand Rapids, Mich., was elected a member of the Executive Committee, representing the Paperboard Group.

H. H. Stonebarger, of the Globe Folding Box Company, Cincinnati, Ohio, was elected a member of the Executive Committee, representing the Folding Box Group.

The Executive Committee of the Association, as now constituted, is as follows:

J. P. Brunt, chairman, Container Corporation of America, and Mid-West Box Company 9th floor, Conway Building, Chicago, Ill., Container Group; W. J. Alford, Jr., Continental Paper Company, Bogota, N. J., Paper Board Group; John L. Barchard, Hummel & Downing Company, Milwaukee, Wis., Container Group; T. H. Goodspeed, American Box Board Company, Grand Rapids, Mich., Paper Board Group; Irving Hill, Lawrence Paper Manufacturing Company, Lawrence, Kansas, Container Group; H. S. Hinkle, National Folding Box Company, New Haven, Conn., Folding Box Group; W. P. Paepcke, Container Corporation of America, Chicago, Paper Board Group; W. H. Richardson, The Richardson Company, Lockland, Cincinnati, Ohio, Folding Box Group; H. H. Stonebarger, Globe Folding Box Company, Cincinnati, Ohio, Folding Box Group.

General Meeting of the Three Groups

The General Meeting, attended by members of the Paper Board, Container and Folding Box Groups, was a most interesting and instructive one. At this meeting, President Brunt submitted the report of the Executive Committee, in which mention was made of the following items:

1. Finances.
2. Suggestions with regard to increasing the association membership.
3. Form and scope of reports submitted by economist.
4. A study with the view to eliminating fire hazard in connection with the paper board industry.
5. Statement that all members of the Paper Board Group are operating in accordance with Article 8(a) of the Constitution relative to operations in conformity with the Washington Resolution; (i. e., elimination of Sunday work in the mills).

Mellon Institute Monograph

The Association voted an appropriation for the preparation of bound volumes of the Mellon Institute Monograph. This Monograph constitutes a condensed review of all work performed under the Fellowships at the Mellon Institute of Industrial Research, Pittsburgh, during the period 1916 to 1927, including industrial research in the fiber container industry; folding box research; details with regard to the testing of board and boxes; studies of raw and intermediate materials, etc. Members of the Association will be furnished with copies of the monograph.

Election to Membership

Ball Brothers Company, Muncie, Ind., was unanimously elected to membership in the Paper Board and Container Groups.

Appointments on Standing Committee

C. C. Kennedy, of the Sefton Manufacturing Corporation, Chicago, was appointed a member of the Standardization Committee, in lieu of W. P. Hicks, of the same company.

G. G. Otto, of the Eddy Paper Corporation, Three Rivers, Mich., was appointed a member of the Research Committee, in lieu of Paul N. Myers.

Membership Committees

President Brunt announced the appointment of two separate membership committees; one to function in the West and the other in the East, with personnel as named below:

Committee in the West: Chairman, H. L. Rauch, Consolidated Paper Company, Monroe, Mich.; James B. Fenton, Buffalo Box Factory, Buffalo, N. Y.; G. G. Otto, The Eddy Paper Company, Three Rivers, Mich.; H. H. Stonebarger, The Globe Folding Box Company, Cincinnati, Ohio.

Committee in the East: Chairman, W. J. Alford, Jr., Continental Paper Company, Bogota, N. J.; W. J. C. Karle, Karle Lithographic Company, Rochester, N. Y.; Samuel Kipnis, Columbia Corrugated Company, New York, N. Y.; F. J. Kress, F. J. Kress Box Company, Pittsburgh, Pa.

Reports of Group Meetings

A feature of the General Meeting consisted of reports submitted by the officers who had presided at the group meetings. These reports contained a resumé of the subjects discussed and the action taken at the meetings of the individual groups. By this means, all members are kept informed of subjects considered at the group sessions, which are of direct or indirect interest to them.

Thanks to Fletcher M. Durbin

Resolutions were adopted in appreciation of the service rendered to the Association members and to the industry as a whole by Fletcher M. Durbin, who has submitted his resignation as a member of the Executive Committee and who is retiring from active management of the Sefton Manufacturing Corporation.

Sales Promotion Committee's Report

In reporting for the Sales Promotion Committee, Chairman Henry D. Schmidt, of the Schmidt & Ault Paper Company, York, Pa., announced that according to arrangements made by the Committee, Representative A. W. Luhrs had been holding meetings attended by the sales forces of member companies. Through this medium, the Association sales promotion work is brought to the immediate attention of the salesmen of the industry, who may at once follow up intelligently the new fields developed for paper board products.

Approval was given to a schedule of sales promotion work to be pursued during the next 12 months. The constructive work in extending the use of paper board and its products is being carried forward energetically by a staff of trained investigators.

General Manager's Report

General Manager Browder submitted a concise report covering the principal activities of the Association since the May meeting. Specific mention was made of the following items:

1. General association activities.
2. Traffic and classification matters.
3. Relations with American Railroad Association.
4. Export trade in fiber containers and encouraging its rapid growth.

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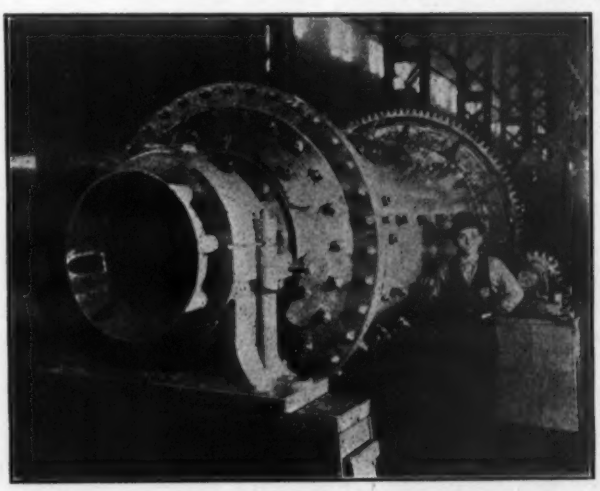

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Gentlemen:

Have one of your engineers fully explain the advantages of the Hardinge Rod Mill to me. Of course, there will be no obligation.

Name & Title .....

Company .....

Research Committee's Report

J. J. Brossard, of the Fort Wayne Corrugated Paper Co., chairman of the Research Committee, submitted an interesting report covering the collaborations of members' chemists in solving technical problems. The committee was requested to make certain further studies, the results of which will be given at the next meeting.

Specifications Covering Waterproofing

Approval was given to the following rewording of the specification covering "Waterproofing," as applicable to container boards, namely:

"A board to be considered 'waterproof' must, when folded into tray form and suspended, hold water for a period of three hours without showing moisture on the opposite surface, except where sand holes appear, providing these are not excessive."

Economist's Report on General Business

A special report prepared by Dr. E. O. Merchant, the Association's economist, was read at the meeting.

The following excerpts from the report are considered to be of special interest:

"The paper board industries may look forward with confidence to an expanding volume of business during the fall months. Such drawbacks as were present during the first half year have largely disappeared. From present indications the volume of business this fall will compare favorably with that of last year. It may even exceed it.

Policies Recommended

1. Be optimistic.
2. Buy raw materials ahead.
3. Do not sell at fixed prices for more than 30 days ahead.
4. Sell on quality and service rather than on price. Sell for profit and not for volume."

Paperboard Group Meeting

At this session Vice-President W. J. Alford, Jr., gave an interesting review of conditions obtaining in the paper board industry.

George W. Gair called attention to the constructive work on the part of the members of the Association in observing the Washington Resolution adopted at the request of the U. S. Secretary of Labor in the matter of eliminating Sunday work in the mills.

A discussion was held with regard to securing the membership of mills not now enrolled in the Association.

Statistical-Accounting Subjects

Reporting for the Statistical-Accounting Committee, Chairman E. R. Hankins announced that the Association will soon increase its staff so as to be in position to render service to the individual member in the installation of uniform cost accounting.

Grafton Whiting, statistician, reported in detail for the committee, specific mention being made of the following:

1. Depreciation survey.
2. Census of the industry for 1926.
3. Summary of operations for 1926.
4. Work done by assistant statistician.
5. Charts and summaries covering mill operations.

Report of Committee on Stabilization

W. P. Paepcke and George W. Gair submitted reports covering progress to date in the effort which is being put forth to promote stabilization in quality and supply of waste paper.

Report was made at the meeting that the recommended basis of cash discount—1 per cent 10 days; 30 days net—is generally being accepted as the proper basis.

Folding Box Group Meeting

Vice-President H. S. Hinkle presided at the Folding Box Group session. He led an interesting discussion with respect to Sales Promotion and how this activity may best be carried on so as to benefit the folding box industry.

H. C. Campbell, a member of the committee, made some interesting statements, mentioning specific articles which should be packaged in folding boxes, and also commenting with respect to certain articles which should be packaged in folding boxes of a better quality than at present used.

To avoid unnecessary work which may result from investigating fields, which have already been thoroughly covered by the individual box manufacturers, Vice-President Hinkle recommended that the members of the group take it upon themselves to outline the program of the sales promotion work, insofar as the promotion of folding boxes is concerned; this rather than placing the burden upon the committee.

Vice-President Hinkle also offered the suggestion that if any member of the Association cares to indicate which fields the sales promotion committee should investigate, the member send the details to the chairman of the Sales Promotion Committee, namely, to Henry D. Schmidt, Schmidt & Ault Paper Company, York, Pa.

Increasing the Membership

Members of the group were urged to use their good offices to bring to the attention of any non-member mills, with which they are in contact, the desirability of such mills applying for membership in the Paper Board Group.

Trade Customs—Warehousing of Finished Goods

An interesting discussion ensued in connection with the subject of warehousing of finished goods. It was the sense of the meeting that while progress is being made in reducing the warehousing evil, this is a subject which requires earnest consideration on the part of the individual folding box manufacturer so that members will not be called upon to warehouse goods for unreasonable or indefinite periods.

Statistical-Accounting Subjects

Reporting for the Statistical-Accounting Committee, Grafton Whiting, statistician, covered the following subjects:

1. General statistical and accounting service.
2. Summary of operations for 1926.
3. Depreciation.
4. Charts and summaries.
5. Census of the folding box industry.
6. Proposed cost estimating manual.

Container Group Meeting

President J. P. Brunt presided at the Container Group session Thursday morning, July 21st.

At this meeting General Manager Browder submitted a comprehensive report of "container" subjects, a copy of which has been mailed to each member.

The various subjects reported upon, each of which is of interest to the container manufacturer and his customer, were discussed in detail and the views of members were expressed with regard to action to be taken concerning changes in specifications and packing requirements.

Among the subjects considered were the following:

1. Requested change in section 7(a), Rule 41 (the fiber box rule).
2. Fiber boxes with ventilation holes.
3. Fiber boxes with hand holds.
4. Closure of telescope boxes.
5. Certificate of box maker.
6. Export trade in fiber containers.
7. Fiber board wrapping for articles of furniture.
8. Interior cushioning for articles of furniture in fiber containers.
9. Inspection service to improve the quality of corrugated and solid fiber boxes.

Packing Requirements—Freight and Express

The general manager explained that the docket of subjects to be considered at the hearings of the Consolidated Classification Committee and of the Express Classification Committee are carefully

(*Continued on page 40*)

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THE PUSEY AND JONES CORPORATION
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BEAVER BOND, No. 224,418. The Peck Engraving Company, Cleveland, Ohio. For writing paper.

WAPELLO CHIEF, No. 249,725. J. G. Hutchison & Company, Ottumwa, Iowa. For writing paper.

DIXOTYPE, No. 231,530. L. S. Dixon & Co., Ltd., Liverpool, England. For boards of paper or flongs.

TRANSEEN, No. 243,061. Newark Paraffine and Parchment Paper Company, Newark, N. J. For glassine, waxed paper, and combination of waxed glassine paper.

CUNOCAR, No. 245,080. Cuno R. Bryant, Portland, Ore. For account books and accounting forms.

A-JUST-ABLE MANUS, No. 247,902. Samuel Manus, Brooklyn, N. Y. For covers for sheet music.

MONTANA SILK TISSUE, No. 248,687. Hoberg Paper and Fibre Company, Green Bay, Wis. For toilet paper.

PAPER BOARD MEN MEET

(Continued from page 38)

analyzed; that all items of interest to the container manufacturer or his customers are promptly reported to the membership. All changes which are considered to be in the interest of the container manufacturer and his customer are actively supported, while proposals not in the best interest of the industry are combatted.

Increasing the Membership

Members of the group were urged to use their good offices in bringing to the attention of any non-member mills, with which they are in contact, the desirability of such mills applying for membership in the Paper Board Group.

Resolutions on Loss of Mr. Joseph W. Weiss

President Brunt announced that since the last meeting Joseph W. Weiss, of the J. M. Raffel Company, Baltimore, Md., a charter member of the Container Group, had passed away. He called upon Chairman Kress of the Resolutions Committee and the latter submitted resolutions, which were adopted.

Following the reading and adoption of the resolutions, members stood at attention as a silent tribute to the memory of Mr. Weiss.

Standardization Subjects

Sidney Frohman, of the Hinde & Dauch Paper Company, chairman of the Standardization Committee, submitted an interesting report containing the recommendations of the committee with respect to subjects which have been under consideration.

Specific recommendations were made with regard to the following items:

1. Proposed standards of boxes to carry heavier weight limits.
2. Suggestions with respect to increasing the dimension limit of fiber boxes used for freight shipment.
3. Revised wording of "Waterproofing" specification applicable to container board.
4. Cloth tape standards.
5. Relations with Federal Specifications Board—U. S. Government.

The Container Group endorsed the recommendation of the Standardization Committee in the matter of a revised wording covering the "Waterproofing" specification, and the action of the Container Group was later ratified by the Three Groups of the Association. The revised wording will be published as the standard of the industry.

The Group also endorsed the recommendations of the Standardization Committee with reference to the basis of Cady and Mullen test, which has been a subject of correspondence and conference with the Bureau of Explosives. It is proposed to make this basis applicable in connection with strength tests of containers used for the shipment of dangerous articles. The proposed basis, which is contained in full in the minutes of the meeting, is in parallel with the standard basis of test for container boards, as published in the Association's Booklet of Standards.

The Committee's report, which was adopted by the members, proved to be interesting material for discussion, and as a result of the discussion, the members outlined a policy to be carried forward with respect to the individual subjects, each of which are of considerable importance to the container industry and to the users of fiber boxes.

Statistical-Accounting Subjects

Grafton Whiting, statistician, reported in detail for the Committee, making special mention of the following subjects which are of interest to the container industry:

1. Depreciation.
2. Summary of operations for 1926.
3. Method of reporting double-wall production.
4. Charts and summaries of operations in container industry.
5. Census of the container industry.

The next meeting of the Association is scheduled to be held in the West on September 21 and 22; Committee meetings will be held on Sept. 20.

Full details regarding the meeting will be announced in the near future.

Box Board Production for June

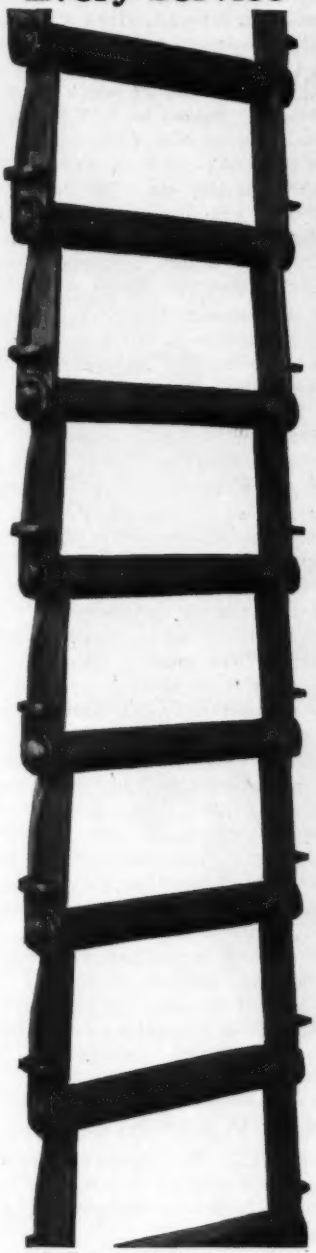
WASHINGTON, D. C., August 3, 1927.—June production of box board, based on reports to the Department of Commerce by 92 firms operating 119 plants, reports for earlier months including three concerns now out of business, was 85.2 per cent of capacity, as compared with 81.5 per cent in May and 88.8 per cent in June, 1926. In the following table the capacity data vary according to the normal number of working days in each month.

Year and Month	Boxboard: Operation: Inch hours: Capacity	Boxboard: Operation: Inch hours: Operated	Boxboard: Operation: Per cent of Capacity	Boxboard: Production: Short Tons: Capacity	Boxboard: Production: Short Tons: Output	Boxboard: Production: Per cent of Capacity	New Orders: Short Tons	Unfilled Orders (end of month): Short Tons
1926								
January	10,081,400	8,134,718	80.7	241,377	197,360	81.8	211,263	120,091
February	9,597,504	7,975,249	83.1	230,568	196,965	85.4	183,030	106,269
March	10,797,192	9,161,681	84.9	259,389	225,688	87.0	219,994	104,128
April	10,397,296	8,628,895	83.0	249,782	207,765	83.2	194,824	90,671
May	9,997,400	8,400,090	84.0	240,175	207,498	86.4	200,832	83,452
June	10,397,296	9,139,549	87.9	249,782	221,909	88.8	242,089	109,559
Total (6 mo.)	61,268,088	51,440,182	83.6	1,471,073	1,257,185	85.5	1,252,032	.....
1927								
January	9,851,050	6,998,505	71.0	244,007	173,629	71.2	194,285	105,669
February	9,457,008	7,583,477	80.2	234,552	189,273	80.7	183,861	102,005
March	10,639,134	8,627,946	81.1	263,871	219,824	83.3	230,065	114,369
April	10,245,092	7,771,040	75.9	254,098	205,589	80.9	197,435	101,861
May	9,851,050	8,147,495	82.7	244,325	199,185	81.5	192,061	93,748
June	10,245,092	7,912,700	77.2	252,098	214,681	85.2	215,135	95,839
Total (6 mo.)	60,288,426	47,041,163	78.0	1,492,951	1,202,181	80.5	1,212,842	.....

Year and Month	Shipments of boxboard: Short Tons	Stocks of boxboard, end of month: Short Tons	Consumption of waste paper: Capacity: Short Tons	Consumption of waste paper: Consumed: Short Tons	Per cent of Capacity	Stocks of waste paper, end of month: At Plant: Short Tons	Stocks of waste paper, end of month: In transit and unshipped purchases: Short Tons
January	196,544	49,634	233,311	187,915	80.5	172,203	44,477
February	194,704	50,717	223,512	187,871	84.1	166,536	55,035
March	222,018	54,265	251,451	214,046	85.1	154,923	42,971
April	208,281	53,661	242,138	209,245	86.4	149,742	50,480
May	207,934	54,599	232,825	193,892	83.3	140,718	45,327
June	215,931	60,080	242,138	213,912	88.3	139,967	58,820
Total (6 mos.)	1,245,412	.....	1,425,375	1,206,881	84.7	.....	.....
1927							
January	175,528	53,562	232,942	163,337	70.1	163,023	38,062
February	189,032	53,327	224,160	182,322	81.3	158,222	40,602
March	217,876	54,566	252,180	209,730	83.2	155,513	43,789
April	209,944	50,211	242,840	189,942	78.2	147,938	46,314
May	199,982	49,144	233,500	192,327	82.4	149,838	59,289
June	211,223	52,751	242,840	179,835	74.1	151,731	43,672
Total (6 mos.)	1,203,585	.. ..	1.428.462	1,117,493	78.2	.....	.....

Jeffrey Chains for Every Service

For Handling Hot Ashes



Jeffrey Reliance Drag Chains for Chip and Ash Conveyors.

Hot abrasive ashes, full of clinkers, are carried from these furnace doors on a Jeffrey Reliance Drag Chain.

This malleable drag chain is made heavy and tough to resist the cutting action of the clinker, and is reinforced with large wearing surfaces on the drag side.

The Jeffrey Continuous Type Bucket Elevator is shown taking the ashes from the pit to an outside ash hopper.

Jeffrey installs complete equipment for handling coal and ashes in pulp and paper mill power plants.

The Jeffrey Manufacturing Company

931-99 North Fourth St., Columbus, Ohio

New York	Pittsburgh	Cleveland	Milwaukee	Los Angeles
Buffalo	Scranton, Pa.	Charleston, W. Va.	St. Louis	Birmingham
Rochester, N. Y.	Boston	Chicago	Denver	Charlotte, N. C.
Philadelphia	Cincinnati	Detroit	Salt Lake City	Montreal

JEFFREY
MATERIAL HANDLING EQUIPMENT

Jeffrey Products

- Elevators
- Conveyors
- Portable Loaders
- Coal and Ashes Handling Equipment
- Skip Hoists
- Chains and Attachments
- Sprocket Wheels—Gears
- Crushers—Pulverizers
- Sand and Gravel Handling Washing and Screening Equipment
- Locomotives
- Coal Mine Equipment
- Tipple Equipment
- Ventilation Fans

New York Trade Jottings

A. C. Romley, vice president and general manager of the Patten Paper Company, Ltd., of Appleton, Wis., was a New York visitor last week.

* * *

Walter Hicks, of Daniel M. Hicks, Inc., 200 Fifth avenue, New York, has left the city and is enjoying a hard earned vacation at Shelter Island.

* * *

The Petition in Bankruptcy filed by the M. & L. Paper Box Company, of 819 East 5th street, New York, has been dismissed, upon the consent of the creditors.

* * *

The Lutz Paper Company, formerly of 200 Fifth avenue, announce the opening of new offices in the National City Bank Building, 17 East 42nd street, New York.. The new telephone number is Murray Hill 0707.

* * *

The New York Sales Office of the Reading Paper Mills, of Reading, Pa., will be discontinued after September 1. A. E. Dubey, sales manager, who has been in charge of the office, will sever his connections with the company at the same time.

* * *

A. H. Hooker, Jr., director of technical services, of the Hooker Electric Chemical Company, Niagara Falls, and James Rogers, Jr., sailed from New York yesterday aboard the *President Harding*, for an extensive tour of Europe, during which they plan to inspect many of the leading paper mills.

* * *

The Timken Roller Bearing Company for the six months ended June 30 reported a net profit of $5,406,834 after charges and Federal taxes, equivalent to $4.50 a share earned on the 1,200,882 shares of no par value stock. This compares with $4,903,490, or $4.08 a share, for the first half of 1926. Officials of the company deny that any merger plan is under way.

* * *

George E. Shipman, formerly with the Canadian Cellulose Company, of Cornwall, Ont., sailed for Cuba early this week to take charge of a new pulp mill near Havana, where high grade bleach pulp is to be manufactured from bagasse. The equipment for the new plant is being installed by the Stebbins Engineering and Manufacturing Company, Watertown, N. Y.

* * *

The Miller & Wright Paper Company, of 65-67 Duane street, New York, are sending out an exceptionally artistic booklet made of the distinguished new Strathmore Cockatoo. The booklet explains convincably how the new humidifying apparatus installed in the Strathmore mill at Mittineague solves temperature and humidity variations and assures increased efficiency, production and health.

* * *

Financing in connection with the recent formation of the Keyes Fiber Company, Inc., is announced by Paine, Webber & Co., New York, consisting of a new issue of 45,000 shares of convertible Class A stock, priced at $42 a share, to yield 7.14 per cent. The Keyes Fiber Company, Inc., was recently organized under the laws of Maine to acquire the business and assets of the Keyes Fiber Company and the assets of the Rex Pulp Products Company. The company's manufacturing plant, with a capacity of about 4,000,000 units a day, is located at Waterville, Me., while a well equipped pulp mill is located at Shawmut, Me. Upon completion of this financing the outstanding capitalization of the new company will consist of 45,000 shares of Class A convertible stock (this issue), 135,000 shares of common stock of no par value and $2,500,000 of first mortgage 6 per cent serial gold bonds.

Error in Article Under Title, "Dr. Baker Reviews Big Developments on Coast"

The JOURNAL of Thursday, July 28, carries as the leading article what was reputed to be an address by Dr. Hugh P. Baker, of the American Paper and Pulp Association, before the Chamber of Commerce of Portland, Ore. This article was based upon an article in a Portland, Ore., paper of July 22, which stated that "on data furnished him (Hugh P. Baker) by B. T. McBain, of Portland, pulp and paper specialist, the New York visitor stressed facts that the production of pulp and paper in Oregon and Washington now approximates 2,000 tons daily, etc." The clipping from the Portland paper then goes on and states further, "the sketch furnished by Mr. McBain to Dr. Baker showed that, commencing at Bellingham, Wash., etc." There is then listed plants now in operation, proposed new developments, etc.

We regret to learn that the statement in the Portland paper, evidently furnished by B. T. McBain, is not a report of the address given by Dr. Baker before the Portland Chamber of Commerce. Had the JOURNAL known that the report from the Portland, Ore., paper was not a correct report of Dr. Baker's address, the article in the July 28 issue would not have appeared.

While we had understood that nothing was to be given out as to Dr. Baker's west coast trip until his return to New York, we felt naturally that the report of his address in the Portland, Ore., paper was a correct one and that the readers of the JOURNAL would be interested in the statement which gives list of forecasted pulp and paper mill developments on the coast. In fact, we understand that Dr. Baker had prepared a careful release of entirely different character which was given to the papers of Portland through the Chamber of Commerce.

Roy Campbell Injured by Golf Ball

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, August 8, 1927.—Roy Campbell, traffic manager of Butler Brothers, says that "it is neither the water or the mental obstacles on a golf course that makes this bonnie game hazardous but the man behind the iron." Mr. Campbell had a painful and what might have been a very serious experience of being struck squarely in the eye with a golf ball while on his vacation last week. He was playing the Green Bay, Wis., course and approaching on a fairway at a distance of about 150 yards from a parallel tee when a low ball driven with tremendous force struck him. It was at first thought that a paralysis of the optic nerve might occur but immediate medical attention was given and this condition removed. Mr. Campbell has resumed his duties with the Butler Company and except for a painfully bruised face says that he feels completely recovered.

Standard Paper Co. Pays 12 Per Cent

KALAMAZOO, Mich., August 8, 1927.—The Standard Paper Company, beginning August 1, went on a 12 per cent dividend basis, payable three per cent quarterly. This is an advance of four per cent from the eight per cent previously paid.

This is one of the most successful board mills in the Central West, having an immense output of small dry cartons and supplying some of the biggest manufacturers of boxed goods in America. The company has built up a very large surplus, the stock now having a book value of $18 a share.

Business Good in Pittsburgh

PITTSBURGH, Pa., August 9, 1927.—Business in Pittsburgh district is good. The "1927 Malmo Drive," put on by Huff, Barnes & Opie, Inc., covering a period of thirty days, June 20 to July 23, inclusive, orders received for immediate delivery seventy-four thousand and eighty rolls—fifty-nine carloads. Malmo is twenty-five pound dry finish sulphite, made by the Fletcher Paper Company.

Pulp Stone Duplication

Every step in the manufacture of the Norton Pulp Stone, from the production of the abrasive to the assembling of the finished segments, is under absolute control. The proper grit size, hardness and structure, can be predetermined for the requirements of each mill. And once having been determined they can be duplicated in every succeeding stone in every detail.

NORTON COMPANY
WORCESTER, MASS.

NORTON COMPANY OF CANADA, Ltd.
HAMILTON, ONTARIO

NORTON
PULP STONES

PAPER TRADE JOURNAL
ESTABLISHED 1872

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FIBER BOARDS AND FREIGHT RATES

A novel phase of competition between industrial groups has been called to the attention of railroad executives throughout the country in a memorial from the lumber industry as represented by the National Lumber Manufacturers Association. The memorial contends that by reason of more favorable freight rates granted by the railroads to substitute building materials the railways are losing both in tonnage and the rate per ton. The modern substitutes for lumber are lighter, it is said, and each car of the substitutes loses the carriers four cars of lumber tonnage. The memorial states it is reliably estimated that in the past five years the railroads have deprived themselves of nearly $6,000,000 in lumber revenue, it being argued that the disparity in effective freight rates is encouraging the consumption and shipment of substitutes and discouraging loads of lumber.

The memorial sets forth that the lumber industry pays a yearly freight bill of $400,000,000 and yet "is now unable to move large volumes of forest products, because prices will not permit them to stand the present shipping costs." The lumber industry maintains that since it provides the carriers with more cars of revenue freight than any other industry, with the exception of one basic industry, it believes that the railroads will desire to correct any existing prejudicial conditions and hopes that they will take steps appropriate to that end.

In 1926, it is stated, one freight car out of every fifteen loaded contained forest products, and lumber contributes over 7 per cent of all revenue freight loading. On the other hand, the railroads directly and indirectly purchase 25 per cent of the annual timber cut of the country, including millions of railway ties, billions of board feet of timbers and lumber for building bridges, fences, docks, wharves, telephone and telegraph poles, freight cars, floating equipment, etc., costing annually about $170,000,000.

As illustrating the consequences of what the lumber industry considers unfair freight rates, it is pointed out that a certain fiber board utilized 3,819 cars in 1926, thereby displacing lumber that would have required 15,400 cars. The general position of the lumberman is stated as follows:

"Time was when lumber was practically the only building material with competition only between species. But in recent years there have sprung up many substitute building materials which, through vigorous merchandising methods and salesmanship, have cut deeply into the markets for lumber. Structures of freight rates have been built up which in substantial effect in some instances constitute a subsidy to these competing materials, are a detriment to the lumber industry and a loss to the carriers.

"Be it understood that the lumber industry is not seeking the favor of the carriers, nor their aid in attempting to "beat" its competitors. These facts are important alike to the railroads and the lumber industry. The other problems of the lumber industry relating to better merchandising, advertising, salesmanship and unfair competition are being energetically handled through a nation-wide trade extension campaign, which will doubtless result in an increasing volume of lumber revenue freight for the carriers."

In conclusion, the railroads are requested to make an immediate investigation of the rates charged substitute building materials as compared with lumber, with special consideration of the question as to what extent lumber is being displaced by substitute materials on account of the preferential rates.

EXTENDING ARBITRATION LAWS

The area for the amicable settlement of commercial disputes has been extended to the States of California and Pennsylvania this year, as the result of the enactment of comprehensive arbitration laws at the legislature sessions just ended, according to an announcement issued by the American Arbitration Association, whose headquarters are at 342 Madison avenue, New York City.

From the stand-point of inter-state and international trade, these two great coast states, with the important shipping centers of Philadelphia and San Francisco, are of strategic value to the development of arbitration and the promotion of commercial peace and economic stability.

Nearly all of the commercially important seaboard states, New York, New Jersey, Massachusetts, Pennsylvania, Oregon and California now recognize the validity, enforceability and irrevocability of agreements to arbitrate disputes that may later arise out of business contracts, as well as submissions to arbitration of existing controversies.

In these states business men may now practically insure themselves against litigation by inserting an arbitration clause in their ordinary commercial contracts, order forms and similar business agreements. The standard arbitration clause rocemmended by the American Arbitration Association and enforceable in the above States reads as follows: "Any controversy arising from or concerning the transaction of which this contract is a part shall be settled by arbitration and judgment may be entered on the award in any court having jurisdiction."

The new laws provide a policy and procedure for the arbitration of intrastate disputes which is in complete accord with the national policy, for interstate commerce, as expressed in the Federal Arbitration Act which became effective on January 1, 1926.

In the United States, state lines do not form barriers to trade, and the closely interwoven economic life of this nation and the wide distribution of its industries necessitates transaction of business by the average individual, firm or corporation outside and within the state. Furthermore, many business concerns have branches in various states. For these reasons existing trade systems of arbitration, like the trades they serve, know no state boundaries. The conditions of modern commerce, therefore, require that when a dis-

pute is to be settled by arbitration the state laws insofar as they regulate scope and procedure, should conform to the national statutory policy and should be generally uniform throughout the states.

Briefly summarized, the Federal Act and the laws of the six states mentioned provide that parties may agree to arbitrate all future disputes arising out of a contract as well as existing disputes.

If one party refuses to arbitrate, the other may apply to the court for an order directing the arbitration to proceed according to the terms of the agreement and, if necessary, appointing the arbitrators. When one party brings an action in court instead of proceeding to arbitration, upon the application of the other party the court in which the action is pending must stay the trial until arbitration is had.

The arbitrators have the power to hold hearings, summon witnesses and order the production of books, records and documents; and, if necessary, the court will compel attendance of witness and the production of books.

If the award is not performed voluntarily, any party to the arbitration may apply to the court for an order confirming it. The court can not review the facts and give a new decision but must confirm the award, unless there has been misconduct by the arbitrators or an evident miscalculation of figures or mistake in description or the award is on a matter not submitted, in which case the award is vacated, modified or corrected, as the case may be. Once the award is confirmed, a judgment may be entered and execution may issue as on any other judgment.

Tariff History of the Paper Industry

The American Paper and Pulp Association, 18 East 41st street, New York, has just published Special Report No. 8, entitled "Tariff History of the Paper Industry of The United States, 1789 to 1922."

The report was prepared by L. M. Lamm, and may be procured for $1 per copy. This is said to be the first time that a compilation of this kind has ever been attempted for the paper trade.

The monograph is contained in two parts, one giving all references to paper in the various tariff acts, and the other taking up some of the chief classifications of paper, showing the trend of their tariff history.

Appended to the report is a valuable chart prepared by Norman S. Meese, Acting Chief of the Paper Division of the United States Department of Commerce, which is published with his permission.

W. H. Kraske Leaves Kapuskasing

W. H. Kraske, who has been sulphite superintendent of Spruce Falls Pulp and Paper Company, Kapuskasing, Ont., for about four years, has resigned and will take a vacation for a time at Wisconsin Rapids, his former home.

Mr. Kraske received his early training with Nekoosa-Edwards Paper Company, Port Edwards, Wis., and left his position as assistant sulphite superintendent in 1917 to enter the war service, spending three years in France and in Germany with the army of occupation.

Returning a captain he was superintendent of the Consolidated Water Power and Paper Company, Wisconsin Rapids, sulphite mill from 1921 when it was completed until the middle of 1925, when he went to Kapuskasing, a Kimberly-Clark subsidiary.

Mr. Kraske is regarded as one of the best trained of the younger sulphite engineers in the industry.

June Pulp and Paper Production Statistics

The June production of paper in the United States as reported by identical mills to the American Paper and Pulp Association and cooperating organizations, showed an increase of 3 per cent as compared with the May production, following a 3 per cent decrease in May over April, according to the Association's Monthly Statistical Summary of Pulp and Paper Industry. All grades showed an increase in production as compared with May, with three exceptions.

The summary is prepared by the American Paper and Pulp Association as the central organization of the paper industry, in cooperation with the Binders Board Manufacturers Association, Converting Paper Mills Association, Cover Paper Association, News Print Service Bureau, Wrapping Paper Manufacturers Service Bureau, Writing Paper Manufacturers Association and Paperboard Industries Association.

The figures for June for same mills as reported in May are:

Grade	Number of Mills	Production Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
News Print	71	125,284	122,377	26,549
Book	62	91,214	90,268	50,711
Paperboard	111	197,436	194,257	52,589
Wrapping	75	51,157	50,351	42,833
Bag	23	12,589	12,973	7,982
Fine	73	29,506	28,234	41,191
Tissue	53	13,879	13,502	17,973
Hanging	9	4,909	4,866	1,073
Felts	13	11,231	10,933	2,596
Other Grades	60	23,137	21,756	19,591
Total—All Grades		560,342	549,517	263,088

During the same period, domestic wood pulp production decreased 10 per cent, this decrease being distributed over all grades with three exceptions. The June totals (mills identical with those reporting in May) as reported by the American Paper and Pulp Association, are as follows:

Grade	Number of Mills	Production Net Tons	Used Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
Ground Wood Pulp	88	84,248	84,924	2,662	155,107
Sulphite News Grade	38	39,322	36,729	2,892	9,590
Sulphite Bleached	22	22,723	20,005	2,471	2,970
Sulphite Easy Bleached	6	4,584	3,544	891	963
Sulphite Mitscherlich	6	6,299	5,571	1,052	436
Sulphate Pulp	10	17,071	15,263	1,475	3,237
Soda Pulp	11	17,040	12,488	4,609	2,378
Other than Wood Pulp	2	41	1	36	83
Total—All Grades		191,328	178,525	16,088	174,764

Whitaker Co. Sues Printing Commissioners

[FROM OUR REGULAR CORRESPONDENT]

FRANKFORT, Ky., August 1, 1927.—The Whitaker Paper Company, of Cincinnati, today filed suit against the State Board of Printing Commissioners to collect $20,034.08, which the company claims is due it.

The suit was filed in the Franklin Circuit Court, and Governor Fields, Mrs. Emma Cromwell, Secretary of State; Frank E. Daugherty, Attorney-General; W. H. Shanks, Auditor, and Ed. Dishman, State Treasurer, members of the board, are made defendants.

The company, in its petition, alleges that it entered into contract with the commission in December, 1922, under the regime of Edwin Morrow, to furnish paper to the state at a profit of 7 per cent. A number of bills were paid, but from August 30, 1926, to February, 1927, the company said there is due $20,034.08 from the state for goods received.

The petition alleges the bills were presented to the commissioners with the existing mill prices, and the commission failed to approve or disapprove these bills. They seek to have the commissioners examine the invoices and if they are correct approve them for payment.

The State Board ordered payment of the bills withheld last fall, following a report from T. Scott Mayes, State Inspector and Examiner, who said the commission should be given invoices from the mills, and also questioned the validity of the 7 per cent profit, when the statutes call for 5 per cent profit.

Bend It - There's REAL FLEXIBILITY!

Free bending of ply on ply.
No folds in the fabric.
No seams to open up.
No ply separation.
No bootlegging.
Made of strongest belt duck—50% less stretch.
Compact weave of fabric gives better anchorage—fasteners won't pull out.
Not affected by atmospheric changes.
Longer life.
Send for folder of valuable horse-power and pulley data.

HERE'S a seeming paradox—a belt built of heavy, hard-woven duck, able to handle the heaviest loads—yet so flexible that minimum slippage is assured, even on small pulleys!

This unusual combination of qualities is due to the square-edge construction, without seam or fold in the fabric. There is perfect adhesion between plies. Bootlegging cannot occur, because any entrapped air is free to escape.

The hard, tight weave in the duck gives a firm anchorage for fasteners; the Goodrich process of manufacture reduces stretch almost to the vanishing point.

Goodrich "1788 Highflex" is a heavy duty belt in every sense of the word; and likewise ideal for high-speed drives and small pulleys.

Standardize on "1788 Highflex"!

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 Akron, Ohio

Goodrich
"1788 Highflex" Belt

Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Colored Printing of Paper and Cardboard by Means of Engraved Rubber Rolls*

By J. Rollin

Under the influence of modern art, public taste is increasingly directed towards decorative effects obtained by means of large patterns in bright colors, and with sharp contrasts. Modern designs, which, in the last few years, have been found mostly on wall papers and printed fabrics used in upholstery, have accustomed the great mass of consumers to this new conception of decoration.

It is quite natural that papers and cardboards used for wrapping and packing purposes, for which there is a large demand, should be prepared in accordance with present day taste and printed in various colors in modern style. Moreover, it is recognized that successful advertising must be striking and attract attention; and by a happy coincidence this requirement is fulfilled by the designs at present in favor, which certainly catch the eye and thus draw attention to any advertising matter with which they may be associated.

It is therefore a decided advantage for the purchaser of wrappings or packages that the latter should be printed in attractive patterns, bearing his trade mark or other advertising medium. The appearance of the package will undoubtedly facilitate the sale of his goods; for it is a well known fact that even the best of goods are improved by being put up attractively.

It is also to the advantage of the paper manufacturer to distribute his products printed according to the present fashion. The increasing demand for printed paper and cardboard has resulted in directing manufacturers along certain specialized lines.

The printing of paper on a large scale requires the use of suitable large-capacity machines. Until recently, a small number of machines were in use, which printed a few classical designs, usually in one color, mostly of the type known as "imitation wood cuts." These designs, which now seem quite flat in comparison with the bright colors to which we are accustomed, were reproduced almost exclusively by zinc engraving, by molding into rubber sheets the designs etched into zinc by means of acids. The molded sheets were then glued on to the printing roll. This process always resulted in a slight marking of the paper or board by the lines along which neighboring sheets touched, thus marring the work to a certain extent. Moreover, the relief obtained on the rubber could not be greater than the depth of the zinc engraving, which, at the most, is of the order of 6 to 8 tenths of a millimeter, as a deeper etching blurs the design.

The linings thus obtained are fairly expensive if the design is changed at all frequently; moreover, the small amount of relief obtainable makes them wear down quite rapidly, so that in order to obtain a high output from the machines the roll linings must be replaced very often.

The Use of Engraved Rubber Rolls

The modern conception of this work is entirely different. The large designs which are at present in vogue, instead of being molded into rubber sheets as heretofore, are engraved directly into the rubber by means of an engraving tool. Of course a special grade of rubber must be used, a compromise between the hardness required to enable it to be engraved and the softness essential to good printing qualities. By direct engraving of the rubber a very high relief, of the order of 2 or 3 millimeters, can be obtained, so that the service obtainable from such rolls is very much greater than that from rolls lined according to the old process. The life of the rolls is proportional to the depth of the engraving, and in practice is at least three times as long as the life of the old rolls.

For printing in several colors, one roll is used per color, and all the rolls used for printing a given design must naturally be of absolutely the same diameter. The engraving studio entrusted with the reproduction on rubber of a design in several colors must first bring it to the proper dimensions, that is, bring it to such a scale that the pattern will be reproduced an exact number of times both along the circumference and across the width of the roll.

When in use, the several rolls must register with one another, so that each color will be printed in its right place on the paper, without overlapping any other color. The impression obtained in this way by each roll is absolutely continuous, contrary to what took place by the older process.

The Operation of a Machine

A machine for printing in several colors consists of a number of rubber covered rolls. First, of all, there are the printing rolls, which are the essential part of the machine and the function of which consists in applying to the paper or cardboard the colored inks, which are fed to them by means of other rubber covered rolls, called "feeding" or "inking" rolls. The covering of the latter is of very soft rubber. For each printing roll there are three inking rolls: the first inking roll rotates partly immersed in

* Translated from Le Papier xxviii, 1347-1351, December, 1925, by A. Papineau-Couture.

the color trough; it is in contact with the second inking roll, which takes up the ink, spreads it out evenly, and transfers it to the third inking roll; the latter is in direct contact with the printing roll, on which it deposits the ink very uniformly. The amount of ink thus transferred to the printing roll can be adjusted by the relative pressures between the several rolls.

The paper or board passes successively between each printing roll and a large rubber covered drum known as the bed roll.

A machine for printing in four colors therefore comprises, in addition to the bed roll, a total of 16 rubber covered rolls.

In going through the machine, the paper passes over the bed roll, all the printing rolls simultaneously apply the several colors, and the paper is reeled as it leaves the machine. Cardboard passes through in the same way, and on coming out it can be either reeled or cut into sheets of the required size in the usual manner. Paper or cardboard can be passed through at a speed of about 20 to 30 meters a minute, representing an output of something like 10,000 meters per machine per 8 hour day.

An important point in connection with the process is the composition of the inks, which should be such as to give the desired shade and at the same time dry as rapidly as possible. They have three main constituents: the color, the solvent, to which is added a variable proportion of water, and the mordant. Aniline dyes are taken for this work, those most generally used being the most soluble basic dyes, in as concentrated a form as possible.

Alcohol is used as a solvent. It does not attack the rubber, as do spirits of turpentine and other solvents, which dissolve rubber and rapidly render the rolls unfit for use. Some products should therefore on no account be used. It should also be noted that oils slowly affect rubber and that their use must also be avoided.

The relative proportion of alcohol and water in the ink allows of regulating the rate of evaporation of the liquid, so that the ink may be sufficiently dry by the time the paper or board reaches the reel to prevent staining.

The mordant is used to fix the color on the paper. Glue, tannin or glucose is used for the purpose. The latter gives a certain gloss to the impression.

Hard-sized paper does not readily take the ink; and in that case no water should be added to the alcohol. At the same time, this gives a more rapid drying ink.

The Printing Rolls

The most important part of the machine, however, the one which has the greatest influence on the final results of the operation, is the printing roll itself, as it is the engraved rubber covering which must give the desired continuous impression. The total thickness of the rubber is about 10 millimeters, and comprises a layer of about 2 to 3 millimeters of ebonite adhering to the metal and about 7 to 8 millimeters of soft rubber.

The latter is engraved directly by means of an engraving tool to a depth which may exceed 2 millimeters. The engraving of the rubber is a delicate operation, on account of the softness of the material which gives under the tool. It is carried out by workmen specially trained for the work, and requires extreme care as the least flaw in the engraving necessitates remaking the whole covering. An experienced engraver can cut lines down to 1 mm. in width; but the softness of the material does not allow of making designs in lines finer than 1 mm. Practically speaking, this is not a serious drawback, as there are innumerable designs that can be made with lines 1 mm. or more in width.

In the case of advertisements, these can be engraved into the roll along with the rest of the design. It may happen that certain patterns or trade marks require to be printed in fine lines, which cannot be engraved into the rubber precisely on account of the fineness of the lines. This problem had to be solved; for if the process could have been applied only to a limited number of trade marks, it is evident that its usefulness would have been greatly reduced. To overcome this difficulty, hollow medallions are provided in the roll; and into these are subsequently molded rubber sheets carrying the required pattern or trade mark. Of course the thickness of the sheet must be exactly the same as the depth of the medallions. These inserts, which must also have a high relief, which cannot be obtained from zinc engravings, are prepared by a special molding process from wood cuts. The latter can give a much higher relief, which is transferred to the rubber by the molding process.

The use of such inserts has another advantage, as it allows of using the same design for a large number of orders for different customers, the inserts being changed for the orders of the several customers. In this way changing from one order to another entails but a small cost and causes but a slight loss of time.

The inserts are easily glued by means of a rubber solution, and they can be easily removed from the medallions. The tenacity of the glueing is easily adjusted by means of the contraction of the rubber solution, which should be diluted so that the inserts can be easily pulled out without injury but at the same time adhere sufficiently to prevent their pulling off during the printing. After removal, the inserts are kept for future use in repeat orders from the various customers.

Such inserts can also be used to good advantage in cases where the expense of engraved rolls would be considered too high. A number of inserts could be applied at regularly-spaced intervals on a plain, rubber covered roll, and printed as before.

When not in use, the inserts and engraved rubber roll coverings should be stored in a cool place, away from the light, these being the conditions generally recommended for storing rubber goods in general. Inserts or coverings which have been improperly stored are liable to harden on the surface through ageing of the rubber, and will then cause trouble on the printing machine.

The essential parts of the printing roll are the metal roll, the rubber covering, and the engravings on the latter, and the cost of such a roll depends primarily on these three parts. At first, iron rolls with a shaft passing right through the center were used; but they are both heavy and expensive. The construction was simplified by replacing the shaft by trunions; and now the iron rolls have been replaced by hollow steel rolls.

The diameter of the finished roll is generally of the order of 100 mm., varying a few centimeters either way, but usually comprised between 90 and 130 mm. The steel tube is therefore from 70 to 110 mm. in diameter. Such tubes are a regular article of trade. The ends are closed with cast iron heads, to which are applied the trunions. They are light and easy to handle; they are perfectly suitable for use in printing, and their cost is quite appreciably lower than that of cast iron rolls. The lengths most generally used vary from 1 to 1.25 meters.

For the covering, it is unnecessary to go higher than 10 mm., which would increase the cost without improving the printing qualities; but it is also important not to go below this thickness, as the covering would not have the proper elasticity and the quality of the work would suffer in consequence.

As to the cost of engraving, it naturally increases with the amount of material which must be removed and also with the fineness of the lines.

These various factors allow of considerable margin in proportioning the cost to the importance of the order for printed paper or cardboard, either in the selection of the design itself, of the number of colors, or width and diameters of the rolls.

It is thus seen that there is a wide and promising field open to the paper manufacturer, enabling him to attract and hold customers and thereby increase his sales by the installation of a relatively small amount of equipment. It will also help to retain these customers, whose designs he will have in stock. As the public is becoming more and more accustomed to colored packages, the demand for this class of goods is constantly increasing. It is therefore quite likely that the printing of wrapping paper and boards will soon become one of the essential finishing processes of these grades.

Industrial Research Paper Laboratories

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography.

The following list of industrial research laboratories of the pulp and paper industry is extracted from the forthcoming bulletin of the National Research Council, "Industrial Rerearch Laboratories of the United States," by Clarence J. West and Ervye L. Risher. The complete bulletin will give information regarding 1,000 research laboratories, as well as a list of the directors of research and geographical and subject indexes. Copies may be obtained from the National Research Council, Washington, D. C. for, $1 each.

AGASOTE MILLBOARD COMPANY, Trenton, N. J.

Research staff: Harold C. Harvey, director; 2 chemists, 4 engineers and 2 helpers.

Research work: Three-fourths time on wood fiber products.

American Writing Paper Company, Holyoke, Mass. Department of Technical Control.

Research staff: Helen U. Kiely, chief chemist; Lena Kelley, assistant; 3 chemical engineers, 1 research chemist, 4 chemists and 3 laboratory helpers.

Research work: New fibers, new paper-making processes, improvements in present processes; mill experimental work to improve present processes and effect economies in operation.

AULT & WIBORG COMPANY, Cincinnati, Ohio. (Lithographic and letter press inks, ink varnishes, dry colors and driers; varnishes, lacquers, and enamels; typewriter ribbons and carbon paper; writing fluids, pastes and mucilages; dealers in all lithographic supplies.)

Research staff: Louis M. Larsen and 7 research chemists.

Research work: Full time of 8 on pigments, varnishes, ribbons, carbon paper, lacquers and enamels.

BEAVER PRODUCTS COMPANY, INC., Buffalo, N. Y.

Board, Paper and Felt Division: Laboratories, The Beaver Products Co., Buffalo, N. Y., and Anderson, Ind.; The Beaver Wood Fibre Co., Thorold, Ont.

Research staff: P. W. Codwise, 2 chemists, 12 assistant chemists.

Research work: Full time of 3 and part time of 12 on problems connected with the manufacture of wallboard and other fibre boards, news print and dry felt for asphalt saturation.

ROOFING DIVISION. LABORATORIES, THE BEAVER PRODUCTS CO. at Chicago, Ill., Kansas City, Mo., and Albany, N. Y.

Research staff: A. W. Beemer, chief chemist over all plants; W. H. Rosenberg, chemist, Chicago; William Ording, assistant chemist, Chicago; L. E. Hahn, chemist, Kansas City; M. Ethier, chemist, Albany.

Research work: Supervision and development work in connection with asphalt-prepared roofings and allied products.

GYPSUM DIVISION: LABORATORIES, THE BEAVER PRODUCTS CO., Grand Rapids, Mich.

Research staff: H. F. Gardner, chief chemist; 2 assistants.

Research work: Supervision and development work in connection with wall plaster, finishing plaster, molding plaster, dental plaster, gypsum lath, wall board and gypsum blocks.

BIRD & SON, INC., East Walpole, Mass. Research laboratories: Paper Mill at East Walpole, Mass.; Roofing Plant at Norwood, Mass.; Floor Covering Plant at Norwood, Mass.

Research staff: 3 chief chemists, 2 assistants, 5 chemists and 5 laboratory assistants.

Research work: Development of new papers, paper products, floor coverings, and asphalt roofing products; new uses and improvement of present products; cost and waste reduction; accelerated weathering tests and petroleum asphalt research; study of sizing, dyeing, saturating capacity, insulating qualities, finish, waterproofing, etc.

BLEDE, VICTOR G., COMPANY.
(Chemicals.)

Research staff: Victor G. Bloede, 4 chemists and 2 assistants.

Research work: Full time of 7 on developing adhesive products including dextrines, vegetable glue for built-up panel veneer and other wood-working and special hydrolyzed starch products, and developing special sizings and gums for textile, carpet, wall paper manufacturing purposes, envelope and paper goods manufacturers, and paper box makers.

BOGALUSA PAPER COMPANY, INC., Bogalusa, La.

Research staff: R. H. Stevens, chief chemist; 3 chemists and 1 engineer.

Research work: Fulltime on pulp and paper manufacture.

Booth Chemical Company, P. O. Box 203, Elizabeth, N. J. Laboratory at Townley, N. J.

Research staff: L. M. Booth, director; 1 chemist and 1 engineer.

Research work: One-tenth time on coagulation as follows: Water purification, potable and industrial uses; paper mill effluents; increasing retention of size-alum precipitate in paper; miscellaneous mill effluents.

BROWN COMPANY, The, Portland Me., Formerly Berlin Mills Company. Mills: Berlin, N. H., and La Tuque, P. Q.; laboratory, Berlin, N. H. (Paper, sulphite and sulphite fiber, chemicals and lumber.)

Research staff: Hugh K. Moore, 37 graduate chemists, 1 mechanical engineer, 2 technical photographers, 33 assistants, 10 stenographers, 6 maintenance men.

Research work: Full time of staff on work including following subjects: improvements in the various mill processes of sulphite and sulphate pulp-making; impregnation and testing of fiber conduits and water pipes; properties of SO_2 solution; study of physical and chemical properties of wood pulp and other fibers, the beating process and testing pulp and paper; performance of paper machines; performance of steam boiler equipment; study of color measurements; new uses for evaporated sulphite waste liquor; utilization of peanut by-products; developing improved digester-linings; study of woodpulp for nitration and for viscose; methods for coloring hardwood lumber; new uses for kraft papers; study of agriculture in muck soils; development of automatic consistency regulator and slowness tester for pulp suspensions.

BURGESS, C. F., LABORATORIES, INC., Madison, Wis., Branches at Niagara Falls, Ont.; Freeport, Ill.; Chicago, Ill.

Research staff: C. F. Burgess, 15 chemists, 1 physicist, 26 engineers and 137 assistants.

Research work: About two-fifths time on cellulose, pulp paper and fiber products, acoustic materials and acoustic research and engineering, dry battery construction and electrochemical research, ore analysis research (especially manganese), research into the properties of various building materials, radio engineering (especially short wave lengths), thermal insulation, fuel utilization.

BUTLER PAPER CORPORATION, 223 West Monroe St., Chicago, Ill.

Research staff: N. A. Altmann, director; 1 chemist, 1 engineer and 1 pressman.

Research work: One-fourth time on finishes and printing surfaces of paper; also improving quality of paper.

Celotex Company, 645 N. Michigan Ave., Chicago, Ill. Laboratory at 310 W. Superior street.

Research staff: Ebert C. Lathrop, director; 5 chemists, 2 physicists, 3 engineers, 5 assistants, 1 interior decorator and 2 artists.

Research work: Full time of staff on problems relating to manufacture of insulating lumber and its application in building con-

struction and industry; manufacture of acoustical material and problems in sound relating to application.

CHAMPION COATED PAPER COMPANY, Hamilton, Ohio.

Research staff: Donald B. Bradner, director; 4 chemists, 1 engineer and a secretary.

Research work: Practically full time on development of improved paper-coating materials and methods of application; improvement in methods of finishing coated paper; study of paper making fibers and the paper making process; development of paper testing methods.

CHAMPION, FIBRE CO., Canton, N. C.

Research staff: Now being organized; John F. W. Schulze, director.

Research work: Fulltime to be spent on pulp and paper research; principally the investigation of the pulping processes and the study of the uses of by-products and wastes.

CHLORINE INSTITUTE, INC., 30 East 42nd St., New York, N. Y.

Research staff: 1 engineer.

Research work: Full time on water, sewage and sanitation; study of the possibilities of chlorinating kraft pulps without great loss of strength to the pulps; studies in the disintegration of cellulosic substances with chlorine; the promotion of the use of organic chlorine compounds as solvents; and in general, technical promotion of the use of chlorine and its products.

CLAPP, ALBERT L., LABORATORIES, Box 98, Danvers, Mass.

Research staff: Albert L. Clapp, director; 2 chemists, 1 engineer and 2 assistants.

Research work: Full time of staff devoted to research work on cellulose, paper and pulp; inventions on new and improved methods of sizing and waterproofing paper; study and development of pulp and paper for new uses; invention on fireproofing and waterproofing paper and pulpboard for building purposes, also inventions on many molded articles from paper and pulp; scientific researches on the physical and chemical properties of cellulose.

CRANE & CO., Dalton, Mass. (Paper makers.)

Research staff: C. Frank Sammet.

Research work: Full time of 1 on development of new pro-

ham, Mass. (Paper specialties.)

CRYSTAL TISSUE COMPANY, Middletown, Ohio. Laboratory at Amanda, Ohio.

Research staff: Howard H. Harrison, director; 1 chemist and 1 engineer.

Research work: One-fourth time on properties of pulps, papers and dyestuffs which produce papers suitable for various industrial needs.

DENNISON MANUFACTURING COMPANY, 200 Howard St., Farmingham, Mass. (Paper specialties.

Research staff: G. R. Alden, director; 6 chemists and 5 assistants.

Research work: Adhesives and adhesive application; treatment of paper for special purposes, coating, crepeing, gumming; printing plate development; sealing wax; composition printing rollers; and many other developments concerned with conversion of paper into various products.

DIAMOND STATE FIBRE COMPANY, (Also Tre Celoron Co., a division of Diamond State Fibre Co., Bridgeport, Pa.)

Research staff: Gustav E. Landt, director; 5 chemists and 3 assistants.

Research work: About four-fifths time on laminated synthetic resinous products, synthetic resins, molding powders, and silent gears.

DILL & COLLINS COMPANY, Richmond and Tioga St., Phialdelphia, Pa. (Paper makers.)

Research staff: Grellet N. Collins, 2 chemists and 5 chemical engineers.

Research work: Full time of 2 on sulphite, soda pulp, rag half-stuff; manufacture of paper and surface coated papers.

DORR COMPANY, 247 Park Ave., New York, N. Y. (Engineers.) Laboratories and Testing Plant at the Westport Mill, Westport, Conn.

Research staff: J. A. Baker, director; G. M. Darby, chief research chemist; 1 chemical engineer, 1 sanitary engineer, 1 metallurgical engineer, 1 mechanical engineer, 1 analytical chemist and 6 assistants. Chemical, metallurgical, sanitary and mechanical engineers of the general staff of The Dorr Company are available for consultation and assistance as needed.

Research work: Problems in connection with the development of continuous settling, dewatering, and clarification of a wide range of materials; classification and grinding; continuous agitation and mixing; continuous counter-current washing; roasting, calcining and leaching; production of water-floated materials; trade waste and sewage recovery and treatment. The Westport Mill is fully equipped to work out hydrometallurgical, wet chemical, and industrial problems.

DURIRON COMPANY, INC., Dayton, Ohio. (Acid-proof alloy castings.)

Research staff: P. D. Schenck, 1 metallurgist, 1 chemist, 1 assistant chemist, 1 engineer and 1 laboratory assistant.

Research work: One-fourth time of 6 on chemical corrosion of metals, metallurgical problems, physical properties, etc.; problems relating to the handling of corrosives.

EASTERN MANUFACTURING COMPANY, Bangor, Me. (Writing papers.)

Research staff: H. H. Hanson, 3 chemical engineers, 1 laboratory chemist and 3 laboratory assistants.

Research work: Improvement of present, and development of new processes and products.

EASTMAN KODAK COMPANY, Rochester, N. Y.

Research staff: C. E. K. Mees, director; S. E. Sheppard, assistant director; 80 chemists, physicists, and photographic experts, with 60 assistants.

Research work: Theory of photography; development of new photographic apparatus, materials and processes; study of the physical and chemical properties of gelatine and cellulose; production of synthetic organic chemicals.

GREAT NORTHERN PAPER COMPANY, Millinochet, Me.

Research staff: Charles M. Carrier, director; 1 chemist, 5 engineers and 4 assistants.

Research work: Three-fourths time on developing methods and machines for pulp and paper mill work.

HAMERSLEY MANUFACTURING COMPANY, Garfield, N. J. (Papers for waxing, greaseproof papers, book papers and specialties.)

Research staff: 1 chemical engineer and 5 chemists.

Research work: One-third time of 6 on pulp, paper, and paper mill chemicals.

HAMMERMILL PAPER COMPANY, Erie, Pa.

Research staff: Bjarne Johnsen, director; 1 assistant director, 3 chemists, 1 physicist and 2 assistants.

Research work: Study of the processes involved in the manufacture of pulp and paper; study of the auxiliary processes connected with the industry; development of process control tests; study of raw materials, especially wood and fibrous material; study of dyestuff applications; study of water treatment; investigation of new processes; development of paper testing instruments; fundamental research on cellulose and byproducts from waste sulphite liquor.

HERCULES POWDER COMPANY, Wilmington, Del. (Explosives.)

Executive staff consists of G. M. Norman and 12 assistants, who supervise work on problems on high explosives, mineral acids, nitrogen fixation, pyroxylin solutions, nitrocotton, smokeless powder and naval stores at two research laboratories. Laboratories at Kenvil, N. J., and Brunswick, Ga. a. Hercules Experimental Station, Kenvil, N. J.

Research staff: Harry E. Kaiser, director; 39 graduate chem-

ists and engineers, 6 other salaried employees and 50 pay roll employees.

Research work: Approximately full time of 90 on research on high explosives, smokeless powder, nitrocotton, naval stores, primers and detonators. Some time devoted to investigations of analytical methods in reference to above.

b. Naval Stores Experimental Laboratory, Brunswick, Ga.

Research staff: V. R. Croswell and 6 chemists.

Research work: Three-fourths time on plant problems connected with the manufacture of turpentine, rosin, pine oil and allied products by the steam solvent process.

INDUSTRIAL RESEARCH LABORATORIES, 124 West Kinzie St., Chicago, Ill. F. Peter Dengler, Inc., proprietors. (General consulting and research chemists, resource and chemical engineers.)

Research staff: F. Peter Dengler, E. Rollin Barnes, R. W. Eggert; 5 or 6 chemists and 1 engineer.

Research work: Full time of staff on manufacturing and research problems relative to cement, coal, corn, cotton seed, drugs, diary, dyes, food, minerals, paints, paving, petroleum, paper, sewage, soap, steel, sugar, tobacco, water, barley, conservation of waste material and manufacture of non-alcoholic flavoring extracts including vanila.

JONES, WILBUR L., 204 Democrat Bldg., Madison, Wis.

Research staff: Wilbur L. Jones, director; 1 chemist, 1 engineer and 1 assistant

Research work: About three-fourths time on adhesives principally; glues, cements, pastes, and binders are developed for various purposes; studies of the technic of glue-using are made; special adhesives developed for leather, rubber, glass, paper, metals, etc. Some research done on wood compositions and molded wood products.

KALAMAZOO VEGETABLE PARCHMENT COMPANY, Kalamazoo, Michigan.

Research staff: G. F. Des Autels, director; 6 assistants, 1 clerk.

Research work: Full time of 4 and part time of 2 on determination of the most suitable papers or combinations of papers for use in the packing of foodstuffs and all packageable products, under many different climatic conditions; development of special papers for particular uses, establishment and maintenance of high and uniform quality in all papers manufactured.

KIMBERLY CLARK COMPANY, Neenah, Wis., Laboratory at Kimberly, Wis. (Paper.)

Research staff: F. G. Wheeler, director; 8 chemists and chemical engineers, 4 assistants.

Research work: Full time on mill development work.

LITTLE, ARTHUR D., INC., 30 Charles River Road, Cambridge 39, Mass. (Chemists, engineers, managers.)

Research staff: Earl P. Stevenson, director, and 19 research chemists cooperating with 10 analytical chemists; 7 engineers, chemical and mechanical; and special staff for valuations and appraisals.

Research work: Full time of 20 on industrial research on lines determined by requirements of clients and on special problems in adhesives, ceramics, utilization of lumbering waste, paper and pulp, textiles, metallurgy, non-metallic minerals, and process developments.

LOWE PAPER COMPANY, Ridgefield, N. J.

Research staff: R. M. Cobb, director; 2 chemists.

Research work: Half time on problems connected with coating and manufacture of paper board.

Manning, John A., Paper Company, Inc., Green Island, N. Y.

Research staff: E. G. Ham, director; 2 chemists.

Research work: Half time largely on semi-commercial and commercial scale. Comparison of various grades of manila fibers and evolution of new paper-making fibers. Also laboratory research concerning electrical qualities of insulating papers.

MARATHON PAPER MILLS COMPANY, Rothschild, Wis.

Research staff: Allen Abrams, director; 3 chemists and 2 assistants.

Research work: Three to five-tenths time on improvement of existing methods and equipment for manufacturing pulp and paper; new methods and equipment for manufacturing and testing pulp and paper; new products from pulp and paper.

MEAD PULP AND PAPER COMPANY, Chillicochee, Ohio.

Research staff: John Traquair, director; 3 chemists, 1 physicist, 1 engineer and 2 assistants.

Research work: Full time on the manufacture of pulp, paper and cellulose in all phases.

MEIGS, BASSETT & SLAUGHTER, INC., 739 Drexel Bldg., Philadelphia, Pa. (Chemical engineers.) Laboratory at 1138 S. Cecil Street.

Research staff: Harry P. Bassett, C. A. Walter, and S. J. Skravan. Engineering: R. E. Toucey.

Research work: Full time on cellulose products, textiles and heavy chemicals.

MONTGOMERY WARD & CO., 618 Chicago Ave., Chicago, Ill.

Research staff: Ellery H. Harvey, director; 3 chemists, 1 physicist, 1 engineer and 1 assistant.

Research work: One-fourth time on investigation of 35 to 40 thousand catalog items from chemical, physical and engineering point of view for purpose of maintainging uniformity of quality and elimination of weaknesses. Special emphasis on textiles, paper, foods, drugs, hardware, oils.

NATIONAL BISCUIT COMPANY, 85 Ninth Avenue, New York, N. Y. Formerly Marvin-Davis Laboratories, Inc.

Research staff: Clarke E. Davis, 3 chemists and 1 engineer.

Research work: Full time of 6 on food products; their packing and distribution.

NEW ENGLAND LABORATORIES, 121 Chestnut St., Springfield, Mass. (Formerly Emerson Laboratory.) (Chemical, industrial, X-ray; analytical and consulting chemists.)

Research staff: George L. Schadt, director, and 8 assistants.

Research work: Beverages; fats, fatty oils and soaps; fuels; iron and steel; liquors; lubricants; non-ferrous metals; paints, oils and varnishes; pulp and paper; sewage and sanitation.

NEWPORT COMPANY, Milwaukee, Wis. Main research laboratory located at Carrollville, Wis.; other laboratories at Pensacola, Fla., and Passaic, N. J.

Research staff: I. Gubelmann, director; 31 chemists, 4 analysts, 1 physicist, 1 engineer and 61 other employees, including research assistants, colorists, dye testers, helpers, mechanics, librarian and stenographer.

Research work: Full time spent in research and production of new colors and improvement of existing processes, including benzene, naphthalene and anthraquinone derivatives, azo colors and triphenylmethane colors, alizarine colors, anthraquinone vat colors, vat colors of the thioindigo series, new application methods for dyestuffs, hydrogenated hydrocarbons, and research on wood extraction products.

NORTON COMPANY, WORCESTER, Mass.; Niagara Falls, N. Y.; Chippawa, Ont.; Bauxite, Ark. Laboratories at Worcester and Niagara Falls.

Research staff: L. E. Saunders, manager; Worcester; M. F. Beecher, director; 7 chemists, 3 physicists, 7 engineers and 14 assistants; Niagara Falls: J. B. Glaze, director; 4 chemists, 2 engineers and 8 assistants.

Research work: Full time on abrasives; air conditioning; ceramics; electricity: electrochemistry; fuels; heat; metallurgy and metallography; plastics; properties of engineering materials; pulp and paper; rubber and rubber goods sound.

OKONITE-CALLENDER CABLE COMPANY, 350 E. 21st St., Paterson, N. J.

a. Research Laboratory.

Research staff: 1 consultant, 1 research engineer, 3 assistant research engineers and 5 assistants.

Research work: Three-fourths time of staff on study of product: development of new designs of cable with special reference to supertension cables, that is, voltages 35 k. v. and over; study

of joint design and fundamental studies on the nature of insulation as pertaining to paper insulated cables.

b. Chemical Laboratory.

Research staff: 1 chief chemist, 3 assistant chemists and 3 assistants.

Research work: One-fourth time of staff on research problems pertaining to best methods for determining satisfactory paper and oil and development of best types of joint filling compounds.

OXFORD PAPER COMPANY, 200 Fifth Ave., New York, N. Y. Laboratory at 87 35th St., Brooklyn, N. Y.

Research staff: Ralph H. McKee, director; Donald E. Cable, assistant director; 5 chemists, 4 chemical engineers and 6 botanists, wood technologists and research assistants.

Research work: Part time of 2 and full time of 13 on development of an economically profitable scheme of reforestation for raising new supplies of poplar pulpwood; investigations on various chemicals, physical and economic aspects of woodpulp manufacturing processes; paper manufacturing operations are studied in a scientific manner to serve as a means of increasing the efficiencies of certain operations and of improving the quality of our finished papers.

PACKAGE PAPER COMPANY, 150 Girnie Ave., Springfield, Mass. (Waxed papers, packaged goods.)

Research staff: W. R. Bullard, and 2 assistants.

Research work: Approximately half time on wrapping food products, especially for moisture protection, specializing on waxed paper for automatic wrapping machines for wrapping soap, bakery products, cereals, food products, tobacco and candy and developing special papers for various industrial and marketing requirements, particularly for packaged goods.

PAPER MILL LABORATORIES, INC., 830 S. Front St., Quincy, Ill.

Research staff: Sidney D. Wells, director; 1 chemist, 1 physicist, 1 engineer and 3 assistants.

Research work: Practically full time on pulp and paper investigations for paper manufacturers; consulting.

PAPERBOARD INDUSTRIES ASSOCIATION, 608 South Dearborn St., Chicago, Ill. Research laboratories at 739 South Clark St., Chicago, Ill. (Formerly National Association of Corrugated & Fibre Box Manufacturers.)

Research staff: J. F. Gresher, package engineer.

Research work: Designing and testing corrugated and solid fiber shipping containers and interior packing, with the idea of developing the best container and packing for the shipment of the particular article.

PARAFFINE COMPANIES, INC., 475 Brennan St., San Francisco, Calif. Laboratory at Emeryville, Alameda County, Calif.

Research staff: Dozier Finley, director; 7 chemists and 1 clerk.

Research work: Full time 1, part time others on problems in pulp making, paper board manufacture, paper box and shipping container manufacture and problems in packaging; manufacture and use of asphalts, paints, printed and asphaltic floor coverings, roofing, varnishes and lacquers; corrosion studies, particularly as regards underground pipe.

PHILADELPHIA QUARTZ COMPANY, 121 S. Third St., Philadelphia, Pa. (Silicate of soda.)

Research staff: James G. Vail, director; 3 chemists and 4 assistants.

Research work: Three-fifths time on problems dealing with the manufacture and use of soluble silicates, base-exchanging materials, silicate plastics, detergents, etc.

PIONEER PAPER CO., 55th & Alameda St., Los Angeles, Calif.

Research staff: Maxwell E. Campbell, director; 2 chemists and 1 assistant.

Research work: Half time on asphalt and paper fibers; bituminous substances.

POST, FREDERICK, COMPANY, 3635 North Hamlin Ave., Chicago, Ill.

Research staff: W. M. Hinman, director; 1 chemist.

Research work: Half time on study of existing mediums used in copying technical drawings, such as blue print paper, brown print paper, sensitized tracing cloth, etc.; development of new processes and materials for use in this field; light sensitiveness of ferric salts; manufacture of ferric salts.

RICHARDSON COMPANY, The, Lockland, Ohio. Laboratory also at 26th and Lake Sts., Melrose Park, Ill. (Paper boxes.)

Research staff: Harry C. Fisher and 2 assistants.

Research work: Part time of staff on problems in ceramics, plastics and pulp and paper making.

The Melrose Park plant staff works on research as directly applied to plant problems there.

RUBEROID COMPANY, 95 Madison Ave., New York, N. Y. Laboratories at Bound Brook, N. J. and Joilet, Ill.

Research staff: Herbert Abraham, president; 3 chemists.

Research work: About half time on roofing materials, asphalt and its products, paper making, by-products from its wastes.

SCOTT, ERNEST & CO., Fall River, Mass. (Engineers apparatus for saving industrial wastes; vacuum evaporators, vacuum dryers, solvent extraction apparatus, ammonia stills, wood distillation plants.)

Research staff: H. Austin and Robert W. Macgregor, 4 chemical engineers.

Research work: One-tenth time of 6 on vacuum evaporators, vacuum distilling solvent extraction.

SEARS ROEBUCK & CO., Chicago, Ill. (Diversified manufacturing and mail order business.)

Research staff: Elizabeth Weirick, director of textile laboratory: H. A. Hauptli and C. H. Higgins, managers and consulting chemists, wall paper mill; I. W. Keebler, head of wall paper mill laboratory; G. C. Ziegelmann, director of paint and varnish laboratory; 8 chemists.

SIMPLEX WIRE & CABLE COMPANY, 201 Devonshire St., Boston, Mass. Laboratory at 66 Sydney St., Cambridge, Mass.

Research staff: C. R. Boggs, chemical director; W. I. Middleton, electrical director; 2 chemists, 2 engineers and 5 assistants.

Research work: Full time of chemists, 5-10 per cent time of electrical engineers on cable insulation, paper, rubber and varnished cambric.

SKINNER, SHERMAN & ESSELEN, INC., 276 Stuart St., Boston, Mass. (Consolidated chemists and chemical engineers.)

Research staff: Gustavus J. Esselen, Jr., 8 chemists, 5 chemical engineers and 3 bacteriologists.

Research work: Full time of 6 and one-half time of 4 on investigations in applied cellulose chemistry, including rayon (artificial silk), pulp and paper, cellulose esters (nitrate, acetate, etc.), vulcanized fibre; food canning industries; industrial bacteriology; cement and building materials; emulsions and colloidal dispersions; and miscellaneous industrial problems.

SPAULDING FIBRE COMPANY, Inc., P. O. Box 158, Tonawanda, N. Y.

Research staff: F. L. Minnear, director; 2 chemists and 2 engineers.

Research work: Nine-tenths time on dyes, trunk coverings, electrical and thermal insulation, pulp and paper, etc.

STRATHMORE PAPER COMPANY, Mittineague, Mass.

Research staff: Justus C. Sanburn, 2 assistant chemists and 1 helper.

Research work: One-fifth time of 2 on special paper mill problems.

UNITED STATES ENVELOPE COMPANY, 84 Prescott St., Worcester, Mass.

Research staff: R. C. Charron, director; 1 chemist and 2 assistants.

Research work: Half time on adhesives, pulp and paper, materials to make paper transparent, etc.

U. S. TESTING COMPANY, Inc., 316 Hudson St., New York, N. Y.

Research staff: W. F. Edwards, 5 chemists, 3 textile engineers, 1 chemical engineer and 1 physical chemist.

Research work: Part time on investigations of problems arising in textile and allied industries.

WARREN COMPANY, S. D., Cumberland Mills, Me.

Research staff: E. Sutermeister, 2 chemists and 3 assistants.

Research work: About one-third to one-half time of 3 on problems relating to pulp and paper manufacture; studies of the utilization of lime sludge in various lines of work; comparative tests of clays and studies of means of modifying their properties; bleaching investigations at different densities and temperatures to show effect on strength of fiber, etc.; studies of satin white making; sizing with rosin size and other materials in the development of special papers; investigations of the foaming of coating mixtures and of means of preventing it; studies of the possible use of colloid mills for fine grinding; investigations of the factor affecting the opacity of papers; tests of various fibrous raw materials and woods; modification of fibers by beating and in other ways; development of permanent color standards for paper control work, etc.

a. Special Research Laboratory.

Research staff: G. W. Coggshall, 2 chemists and assistants.

Research work: Fundamental studies on the production of pulp and paper from various sources and on methods of isolations and treatment of fibers for special purposes and the adaptation to commercial production.

WILEY & CO., INC., 904 N. Calvert St., Baltimore, Md. (Analytical and consulting chemists.)

Research staff: Samuel W. Wiley and 5 assistants.

Research work: Full time of 1 and part time of others on problems connected with the fertilizer industry; cellulose and paper; coal, oils and coke; beverages.

YORK HAVEN PAPER COMPANY, York Haven, Pa. (Wrapping papers.)

Research staff: James D. Miller, chief chemist; 2 chemists and 2 assistants.

Research work: Two-tenths time on problems in the manufacture of pulp and paper.

Ft. Miller Pulp & Paper Co. To Rebuild

FORT MILLER, N. Y., August 8, 1927.—Insurance adjusters have completed their work of adjusting the loss of the Fort Miller Pulp and Paper Company in the destruction by fire recently of its paper mill and it is understood that plans are now under way for replacing the destroyed mill with a modern fireproof structure. The paper mill, together with the equipment destroyed, was valued at more than $100,000. The new mill when completed will cost considerably in excess of this figure, it is reported.

Following the recent fire Miss A. M. Thorpe, principal owner of the plant, announced that the paper mill would be rebuilt but later it was reported that the company's plans in this regard were rather uncertain. A definite decision to rebuild is now understood to have been reached.

With the erection of the new paper mill the company's plant and equipment will be entirely modernized. The ground wood mill of the company, which was saved during the recent fire undamaged, is a new structure erected four years ago to replace the mill destroyed by fire in May, 1923.

The Fort Miller Pulp and Paper Company has gained considerable publicity in recent years as being one of the very few paper mills in America controlled and managed by a woman. Miss A. M. Thorpe, who is president, treasurer and general manager with a controlling interest, has personally managed the business for the past eighteen years, succeeding in 1909, her father, the late John Thorpe, who headed the company for nearly fifty years.

The plant was a going concern in 1867 when John Thorpe acquired control from the Craig interests, who established the mill a number of years before. The present company includes in its holdings one of the most valuable water power sites on the Upper Hudson. It is one of the few natural waterfalls to be found on the river.

Caroa Fiber as a Paper Making Material *

By MERLE B. SHAW and GEORGE W. BICKING

Experimental tests made at the bureau to determine the papermaking quality of caroá fiber have shown that material to be very satisfactory for paper manufacture on the basis of both quality of pulp produced and yield obtained. The tests have indicated that the fiber is especially suitable for use with or as a substitute for rag and rope stock, of which there is a scarcity in the paper industry.

Caroá (*Naoglaziova variagata*) is a plant of the pineapple family (*Bromeliaceae*) and is indigenous to eastern Brazil in the valley of the San Francisco River. By beating the leaf between stones the natives separate the fiber, which is used locally for coarse hand-made twines, nets, and rope. Caroá is not employed commercially, however, but production and cost estimates indicate that its use for paper making would be practical.

Three samples of caroá, each having received different treatment in the separation of the fiber previous to shipment, were employed in the paper-making tests. The caustic soda process was used in the preparation of the pulp. With small amounts (20%) of caustic the paper produced was very strong and well suited for bag or wrapping purposes. With larger amounts (25%) the pulp bleached easily with 13 per cent of bleach to a good white, and the paper made compared favorably with papers made from rag stock. The chemical consumption and yield of pulp (50-51%) were satisfactory.

A micrographic study showed the fiber to be comparativelp long (4 mm.) and of small diameter (0.01 mm.). These properties tend to produce good felting of the fibers and give compactness and strength to the resulting sheet. Comparative test data on kraft, sulphite, and rag pulps are included in the publication. The laboratory papermaking equipment and technic employed in paper research at the bureau also are described in detail.

A preliminary report of the investigation was published in PAPER TRADE JOURNAL January 8, 1925.

CAROA FIBER AVAILABLE

H. H. Brown of St. Albans, Vt., who has had long experience with rope and similar fibers for paper and who has made commercial application of Caroá fiber is in a position to supply the trade with this material.

Box Company Plans Pulp Mill in Washington

PORTLAND, Ore., August 5, 1927.—Plans have been completed for construction of a modern high-grade sulphite pulp mill by the Shaffer Box Company of Tacoma and in financing of the project offering is being made of $900,000 of 7 per cent cumulative preferred stock. The shares are offered in units of two, with each of which one share of no-par common will be included. The price of each unit is $215. Tom G. Taylor Company, which helped with financing of St. Helens Pulp and Paper Company and Tumwater Paper Mills Company, is handling sale of shares.

The Shaffer Box Company has operated in Tacoma since 1889. It now plans to build a pulp mill with daily capacity of 50 tons, the output to be shipped to the east. Earnings of the company from its present operations have averaged $88,995.35 per year in the past five years. Profits upon completion of the pulp plant have been estimated at $387,995.

A balance sheet set-up giving effect to the present financing indicates assets amounting to $1.484,537.89. This would put an equity of $391,576.35 back of the 12,000 authorized shares of common stock.

Columbia Paper Mills Install Digesters

PORTLAND, Ore., August 1, 1927.—The Willamette Iron and Steel Works, Portland, Ore., has just completed the installation of four digesters at the Columbia River Paper Mills, Vancouver, Wash. These digesters are 15x49 feet and weigh 80 tons.

* Technical Paper of Bureau of Standards, Supt. of Documents, Washington, D. C., price 25 cents.

Measuring, Sampling and Testing Pulp and Paper Mill Wastes*

By W. L. Stevenson, Chairman of Pulp and Paper Waste Disposal Committee

Pulp and paper mill wastes are discharged to streams as liquids containing solids either in solution or in suspension.

The measurement of wastes from the mill to the stream therefore involves two problems:

(1) Determination of the volume discharged per day of 24 hrs.
(2) Sampling and testing of the liquid to determine the weight of materials carried to the stream.

Methods of Measuring the Quantity of Liquid Waste Discharged to the Stream

Pulp and paper mill wastes are of many kinds and are derived from many sources in the manufacturing processes. Individual wastes should be measured and sampled if possible before mixing in a common sewer or ditch with wastes from other parts of the mill.

For example, the white water from each paper machine should be measured and tested as it leaves the machine, or the white water from all paper machines may be run together and measured before mixing with effluent from other sources. Waste Water from a number of wet machines or thickeners running the same stock may be measured as one unit.

It is advisable to determine the waste from each source as described above so that information will be available on the type and amount of waste from each source. Some effluents may be of such a nature as to require little or no treatment before discharging to the stream while others may require special treatment to prepare them for assimilation by the stream.

(1) Determination of the Volume Discharged Per Day of 24 Hours

Methods of measurement in the order of their importance, based on applicability may be classified as follows:

(a) Weirs—either triangular (V notch) or rectangular (Accurate.)
(b) Flow in sewers, open ditches and troughs. (Approximate.)
(c) Tanks or barrels, either by weight or volume. (Very accurate.)
(d) Calculation from consistency of stock. (Fairly accurate.)
(e) Pump ratings. (Approximate.)
(f) Pitot tubes and orifices. (Fairly accurate.)

(a) Weirs

A weir is an opening in the top of a bulkhead or dam through which water flows and by means of which the flow may be measured. The opening usually is triangular or rectangular. It is an accurate method of measurement especially if the water contains solid matter in suspension.

The opening for either form of weir should be made from a thin sheet of metal beveled sharply on the down stream side at bottom and sides. The edges of the opening should be very smooth.

A triangular weir, the sides of which are at an angle of 90 degrees is the most satisfactory for the quantities usually found in mill practice. Readings of the head of water on the crest of the weir must be taken well back from the crest and should be made with a hook gauge or with an automatic recording instrument. When using this gage the sharp pointed hook is submerged beneath the surface and then carefully raised until a slight distortion appears on the surface of the water. The hook should then be lowered until this distortion just disappears. The reading then obtained less the zero reading taken when the point of the hook is just level with the crest of the weir gives the *head* of water on the weir crest. Care must be taken to properly baffle the flow so that the water is very quiet and level at the point where the hook gauge is used, otherwise the reading will not be accurate.

When using a 90 degree triangular weir the discharge may be obtained from the photostat "Head—Discharge Curve for V-Notch Weir" which accompanies this report. (Fig. 1).

Velocity of approach may be disregarded if the weir is placed in a large box.

A rectangular weir may be used if the required head is not available or if the volume of water is too great for measurement with a triangular weir. The depth of water below the crest of the weir should not be less than one-third the width of the weir.

Excellent tables of discharges of rectangular weirs covering a wide range of heads and length of weirs may be found in Williams and Hazen's "Hydraulic Tables." The small booklet "Weir for Measuring Small Flows" which accompanies this report also gives discharges for 6 and 12 in. weirs as well as instructions for their installation.

(b) Flows in Sewers, Open Ditches and Troughs

Where it is not practicable to pass the effluent through a weir box and where it is run in a ditch or open sewer the volume may be measured by the following methods:—

1—By introducing a weir in the ditch if it is deep enough to give an uninterrupted drop away from the weir crest. The velocity of approach must be taken into consideration when using such an arrangement. Baffles should be used where practicable to make the flow smooth and even and the added head upon the weir due to the velocity of approach must be taken into account; see Mark's Mechanical Engineer's Handbook, second edition, page 269, etc.

2—The cross section of liquid flowing in a ditch or in a sewer may be measured and the velocity determined by floating a chip or splotch of dye over a given distance and taking the time with a stop watch. 0.8 of this velocity in feet per second multiplied by the cross sectional area of liquor in square feet will give the volume in cubic feet per second.

This method is not accurate and should be used only where other methods are impractical of application.

(c) Tanks and Barrels

Some effluents, such as lime sludge from bleach plants, which are discharged periodically from tanks may be measured by using the volume in the tank before dumping. The method is very accurate.

Small wastes running at a constant rate may be accurately measured by taking the time required to fill a barrel or tank of known capacity.

(d) Calculation from Consistency of Stock

The volume of waste water from wet machines, dry machines or stock thickeners may be calculated accurately.

Samples are taken of stock entering and leaving the vats and tested for stock density. Knowing the tonnage of stock passing over the machine in a given time, for example, per day; one can then calculate the amount of water entering and leaving the vat with the stock. The difference plus the shower water added in the vat will give the volume of water going to waste.

The amount of shower water may be measured by collecting the water from a shower pipe for a given time and figuring it as gallons per day.

(e)—Pump Ratings

When effluents are pumped, an easy method of obtaining very

* Report of the Pulp and Paper Waste Disposal Committee of Pennsylvania, adopted February 21, 1927.

approximately the volume of effluent is to determine the capacity of the pump.

In the case of plunger pumps the displacement corrected for slip may be taken.

The rating of centrifugal pumps handling effluents on the way to the stream will give an approximation of the quantity, if the speed and head under which the pump is operating are those for which it was designed.

Method (e) is not recommended save as a last resort.

(f)—Pitot Tubes and Orifice Methods

A pitot tube introduced into a pipe line carrying a soluble effluent will yield accurate results on the volume passing through the pipe. However, when measuring wastes containing fiber and clay this method is of questionable accuracy due to the collection of solid material in the pitot tube openings.

An orifice introduced into the pipe line carrying effluent, together with manometer connections may be used satisfactorily.

The pipe must be running full at all times to obtain accurate results with these two methods.

(2) Sampling Liquid Wastes Discharged to the Stream Fiber and Filler

Cup samples should be taken at frequent intervals from the weir box, ditch, trough or pipe line while volume measurements are being made.

Samples should be drawn at regular intervals for several hours at a time and under all different running conditions. The aggregate sample is then well mixed and tested for fibre and filler content.

Waste liquors from pulp mills containing matters in solution should be sampled as described above.

Other wastes such as lime, grout and black ash should be measured and sampled as outlined under fibre and filler.

(3) Analytical Technic and Expression of Results

1. The Initial and Biochemical Oxygen Demand.—The initial biochemical oxygen demand test will be performed in accordance with the method as given in the Standard Methods (1925) of the A. P. H. A. with reference to the original papers published by the U. S. P. H. S., Washington, D. C. The method known as the dilution method will be the one used, reported separately in p. p. m. for 5 days incubation 20 degrees C and extended to pounds per 1000 gallons.

2. Color.—The test for color will be made in accordance with that given in Standard Methods (1925) and, if found possible, will be reported on the platinum-cobalt scale. This test not applicable to turbid wastes.

3. Appearance.—The physical appearance of the sample will be recorded; relative to color in accordance with the following table:

Kind of Color	Intensity
Orange	Faint
Brown	Distinct
Blue	Decided
Red	Very strong
Green	
Yellow	
Black	
White	

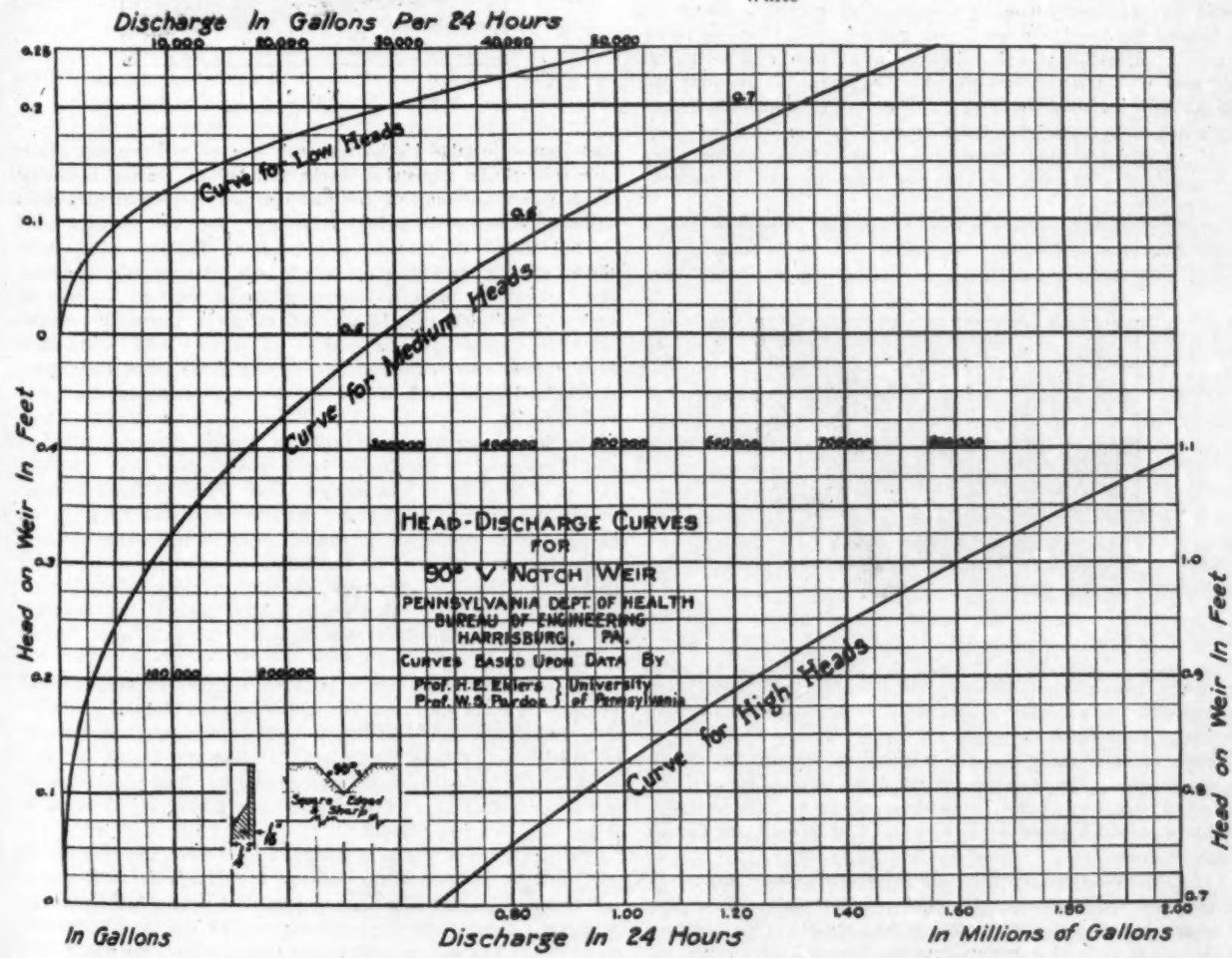
Discharge In Gallons Per 24 Hours
Curve for Low Heads
Curve for Medium Heads
Curve for High Heads
HEAD-DISCHARGE CURVES FOR 90° V NOTCH WEIR
PENNSYLVANIA DEPT OF HEALTH BUREAU OF ENGINEERING HARRISBURG, PA.
CURVES BASED UPON DATA BY
Prof. H. E. Eldert } University
Prof. W. G. Purdon } of Pennsylvania
Head on Weir In Feet
Head on Weir In Feet
In Gallons
Discharge In 24 Hours
In Millions of Gallons

FIG. 1
Head Discharge Curve for V-Notch Weir.

4. Suspended Solids.

(a) Suspended solids will be determined by the Gooch crucible or other approved method and will be reported in parts per million and extended to pounds per thousand gallons.

(b) The total suspended solids will be incinerated and reported as ash in parts per million and extended to pounds per 1000 gallons.

5. Solids in Solution.

The total solids in solution will be determined on the filtrate from the suspended solids test according to the Standard Methods. The residue will be incinerated and the volatile matter and ash determined. These results will all be reported in p. p. m. and extended to pounds per 1000 gallons.

6. Alkalinity—Acidity.

The alkalinity or acidity will be reported in terms of the customary pH value unless the pH is below 4 or above 8. In that case the standard titration value will be determined, using methyl orange as an indicator.

New Roll Grinding Machine

The Lobdell Car Wheel Company of Wilmington, Del., has redesigned its No. 3 roll grinding machine for grinding rolls up to 30 inches diameter. While retaining the well known and time tested principles upon which its machines have always operated so successfully, it has made many changes and refinements, tending to more efficiency in operation, greater rigidity, longer life and increased ease and comfort of the operator.

The new machine is of the same general design as the older model with a bed of heavy box type with solid bottom and cross rods and provision for keeping the V guides true for a life time. The carriage has the exceptionally long Vs which provide the additional wearing surface that has been one of the contributing factors to the long life of Lobdell grinders. It has been more rigidly designed and has overhanging sides, protecting the V guides. The wheel slide rests are so constructed that there is always a rigid support directly under the wheel on the carriage. The wheel arbors of hardened tool steel with ground conical bearings, running in adjustable phosphor bronze boxes with ring oilers are identical with the previous model. The bearings are fully enclosed and protected from grit. The two grinding wheels are each driven by two belts from separate motors mounted overhead on light but rigid frame work carried on the carriage, and are provided with patented balancing rings insuring a perfectly running wheel.

The driving head shows the most apparent change in design. The machine is entirely self contained. The drive is by a constant speed motor, operating through a friction clutch and sliding gears, giving three speeds to the roll; the final drive being through herringbone gears. All the driving gears are of steel accurately machined.

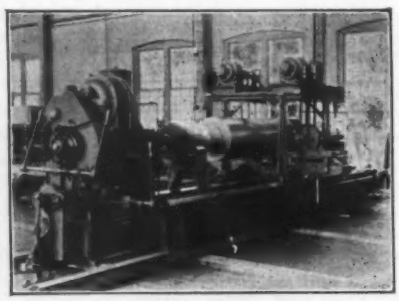

FIG. 1

There are two feeds for the traverse of the carriage as on previous models, the gearing for which as well as that of the drive is all enclosed in the driving head of the machine and with its bearings is lubricated by a flood of filtered oil from the oil supply system.

The roll is connected to the main drive in the same manner as on previous models using a driving bar with square ends sliding through the hollow square in the driving spindle. The securing of this driving bar for maintaining the longitudinal location of the roll independent of the shoulders of the journals has been improved by use of an ingenious enclosed collar. The chucks for securing the bar to the roll necks have also been refined having been provided with a special locking device to hold them in place on the driving bar and ingeniously devised set screws for fastening them to the roll necks eliminating all projecting parts to catch or injure the operator.

The bearings for the roll journals have also been redesigned incorporating suitable babbitt bearing blocks which are set in the cast iron adjustable blocks for each size of roll journal. Suitable roll stands, adjustable blocks and babbitt bearing blocks or check pieces are supplied for roll journals varying from 1 15/16 inches diameter to 18 inches diameter.

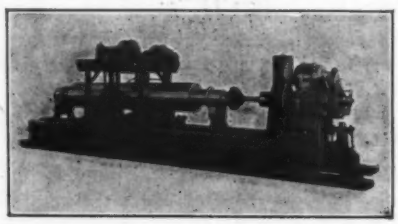

FIG. 2

The traverse or feed screw is of large diameter with square thread bearing throughout its length on a groove machined in the bed casting. It takes its strain in tension on ball bearings at each end and runs in a bath of oil which is constantly renewed from the circulating oiling systems. The screw and its nut have been more effectively covered by a large inverted channel and there is absolutely no possibility of water or grit entering the screw well.

The lubricating system consists of a plunger pump, attached to and operated by the driving head, which delivers oil to a filter located at the top of the machine from which it flows flooding the driving and feed mechanism, the feed screw and the V guides, keeping them thoroughly lubricated at all times. The oil then drains back to a sump in the driving head and thence to the pump again. All secondary bearings are provided with Alemite Zerk fittings. On the same bracket with the oil pump is also mounted the water circulating pump for supplying the soda water to the grinding wheels.

The crowning device which produces a crown of mathematical precision without the usual cut and try method operates on the same principle that has so largely contributed to the preeminence of Lobdell roll grinding machines. It however has been made much heavier giving increased rigidity and has been provided with means for taking up all lost motion, thus eliminating the tension spring of the former model.

While at present this new design is in the No. 3 size machine only, it is the intention of the company to redesign its two smaller size machines on the new lines in cases where the mills deem it desirable to go to the increased expense of the more elaborate machine. It has also in preparation a larger machine which will accommodate rolls up to 42 inch diameter.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

Cost Accounting Practice with Special Reference to Machine Hour Rate*

By Clinton H. Scovell[1]

There is more reason now than at any other time for many years why American manufacturers should consider most carefully the problems of finance and management in connection with their business undertakings. Facing the prespect of increased foreign competition in some lines and the tendency towards higher wages which inevitably follows the increased cost of living, and especially the increased cost of food which makes up such an important part of workingmen's expenses, manufacturers are necessarily interested in any ways or means to make their industrial operations more efficient.

Many things contribute to the efficiency of shop management When a business is small, its success usually depends on the ability, foresight, and good judgment of one or two energetic men. As the business grows, methods and systems must more and more take the place of the manager's personal oversight, and consequently the need increases for accounting, sound in principle and simple in operation.

Under the influence of the new science of management, there has been a constant study in the last few years of manufacturing methods, operating standards, cutting speeds, etc., which has resulted many times in such marked increases of production that the management may be sure that an improvement has been made, even if it does not know exactly *how much* saving has been effected.

It has been clearly established, however, that the cheapening of manufacturing operations which is brought about by a better operating practice is frequently secured at a considerably increased cost for office force, planning departments, helpers, supervision, and other indirect labor, sometimes wrongly called non-productive. As a result the practical problem for the manufacturer is to compare the lessened direct cost for labor and equipment with the increased cost for the other factors. This he can do only when he has an adequate cost accounting practice.

It is my purpose to point out the essentials of a cost system for a machine shop or a manufacturing plant where the operating conditions are similar, with especial reference to the theory and practice of a machine-hour rate. I expect to show you that this is an intensely practical matter and that it has an important bearing on the sales policy and the general management of your business.

Classify Expense Properly—Distribute It Correctly

Good cost accounting depends on the correct application of a few well understood principles. The first of these is to have the direct charges from the original sources, that is, pay-roll and material distributions, correctly classified between direct and indirect costs, and then to determine how the indirect, or so-called non-productive charges, may be identified with the product.

Any cost accounting practice worthy of the name should record accurately the direct labor costs. In a machine shop, or under similar conditions, this direct labor cost should be applied with precision to each job going through the shop. Very little cost accounting practice, however, has attained any similar precision for distributing the indirect charges for equipment, referred to hereafter in this article as burden.

What is Burden? As the difficult and important part of cost accounting is to determine how a correct distribution of burden may be accomplished, it is clearly worth while to consider briefly the elements of burden.

It is a tedious and expensive undertaking to build and equip a new plant and to complete the cycle of manufacture from design to finished product; and there is much to gain in the way of a clear understanding of costs, if we trace out this development step by step, taking careful note of the elements of the problems, as we proceed.

If a new industry is to be established, the directors first buy a parcel of land suitable for the location of the proposed shop. If the purchase price is $40,000 the new enterprise has at once absorbed capital that should earn about $2,000 to the ordinary, prudent investor, who takes no manufacturing or trading risks. A site as costly as this is probably situated in or near a city, so that it will be subject to taxes of $500 or $600.

Shop buildings are next erected at a cost, let us say $200,000 more. This outlay of capital, like the investment in land, involves an annual interest charge (of some $10,000), and under present laws an annual penalty of some thousands of dollars more for taxes. But, unlike the land, the buildings will require constant repairs. Even then they are subject to a slow but certain deterioration and obsolescence that must be met by a charge for depreciation. To protect the investment, the owners must pay insurance and provide watchmen. To make the buildings usable, they must be heated and lighted, supplied with water and fresh air and regularly cleaned. The striking thing about these charges is that they all go on without any abatement, unless the shop is shut down, dark and cold, and even then the principal charges-interest, taxes, insurance, repairs and depreciation—abate scarcely at all.

* From N. A. C. A. Bulletin.
[1] Formerly Senior Partner, Scovell, Wellington & Co., Boston, Mass.

All this expense has been incurred by the management to provide suitable areas for the intended manufacturing process. If there are five or six sub-divisions, each one may occupy an entire small building or all or part of a floor in a larger building. Whatever the details, each department (if we may use that overworked word) uses so many hundred square feet of floor space and must carry its proportionate share of the land and building charges already described.

Within a department there may be one or more different operations, such as milling, grinding, boring, turning, planing, fitting, and assembling. The equipment in each case represents an investment of capital; it requires the payment of taxes and insurance; it suffers depreciation (even more rapid than the building); and it incurs charges for power, repairs, and such indirect items as superintendents, inspection, and helpers' services. If the shop shuts down, the power may be shut off and the foreman dismissed; but so long as it runs, however short handed or however inefficiently, these charges do not change materially; and the fundamentals of interest, taxes, insurance, etc. (with the possible exception repairs) are not one whit less.

All that has been described so far is overhead expense, more properly termed *burden*, and does not include any labor applied directly to the product (like the operative who is working at a lathe or boring mill).

This great accumulation of burden *represents manufacturing capacity*. Each department, and each separate machine-tool has a known annual burden. Its cost per hour is determined by dividing the total burden by the hours in the working schedule, and the shorter the schedule, the greater the hourly cost.

Having completed the buildings and installed the equipment, the management is ready to begin manufacturing operations. As the several parts of the machine progress from rough castings or forgings to finished pieces ready for the assembling floor, their value has increased as they have absorbed the successive increments of direct or productive labor and of the burden appertaining to the production centres through which they have passed.

Cost Accounting and Production Control

Before illustrating the practical application of this theory, I want to point out that good cost accounting is a help to efficient management, not only as it traces and records values but also as it may be made a powerful agent for production control. From my experience in professional service for industrial plants, I emphasize more and more the practical value of this second aspect of the work.

It follows, therefore, that the first step in planning a cost accounting practice for a machine shop is to consider by whom and how authority to manufacture shall be exercised. It is simple enough to order ten castings from a given pattern which has already been made, but as you all know, the production of a machine tool involves orders for castings of many different patterns and sizes, bar stock for forgings, etc., and these material orders are all very simple in comparison with the complex schedule of machine operators which are required to produce the finished parts. You all recognize how important it is that parts should be made in quantities that are economical and that the different pieces required should all be ready together on the assembly floor. It is, therefore, of the utmost importance, to make effective plans to initiate and control the production so that these results may be accomplished. The managament will then have a definite schedule of manufacturing operation on which costs may be determined by orders, by lots, by individual parts—with as much or as little detail as may be necessary.

What Constitutes an Adequate Cost Practice

Returning now to the subject of specific costs, the first step is to provide such labor records, preferably with good automatic time stamps, as will make possible the necessary distinction between direct and indirect operations, and the exact time devoted to each lot of material or each expense order.

The next step is to compute the burden correctly for each department, including interest, taxes, insurance, and depreciation on the buildings and equipment, and the additional charges for power, supervision and repairs. In many industrial plants "manufacturing expense" includes only part of these charges. The first cost of manufacturing is plant investment—land and buildings. No management using a rented plant would think of omitting rent from overhead charges. When the manufacturer becomes also a landlord, as when the plant is owned by the manufacturing company, what sound reason can possibly be given for omitting from burden the charges which the management incurs in lieu of rent?

The equipment presents a slightly different problem. Very few manufacturers operate with rented equipment; if they do, there is rent to pay, as an unavoidable burden on the manufacturing operations. When the equipment is owned, the maintenance charges are equally unavoidable. The manufacturer must get interest on his investment before he has in any sense a profit, and he must bear the expense of taxes, insurance, depreciation and repairs. Although these elements of cost may be neglected or not stated, they are, nevertheless, taking their proper share, or more, of what is figured without them as gross profits.

The weakness of many cost systems is that important elements of indirect cost are thrown together in a "general expense" account, concealing the leaks and wastes that reduce efficiency and curtail profits. Many manufacturers have no doubt been satisfied to handle burden in vague and general terms because they did not know of any better way to dispose of it.

It may be stated confidently that under ordinary machine shop conditions, no accurate distribution of burden can be accomplished, and therefore no accurate costs determined, by spreading burden over all the work done in the shop as a percentage of the cost of direct labor. In the shop proper, with its widely varying equipment of machine tolls, distribution on the basis of a man-hour rate is not very much better, although, as I shall point out later, that plan works very well for fitters and assembly men.

To secure a correct burden distribution it is only necessary to prove, by analysis, the elements of which burden is composed and then to consider how all this overhead is actually applied to the product.

Attention Should Be Fixed on the Production Center

At this point we encounter another mistaken tradition of "departmentalized costs." To define burden correctly in each department is good as far as it goes, but it does not go very far, especially in a machine shop. The attention of the manager and the cost accountant ought to be fixed on the individual production centre, usually a power machine. Recent developments under actual shop conditions show that *the correct burden* for a machine tool *may vary from less than ten percent to over three hundred percent of a machinist's wages.* The widely accepted method of charging burden to costs on the value of productive labor makes no distinction between the mechanic at the bench, whose work has practically no burden except supervision, and the operator using a costly machine, which involves heavy charges for maintenance, power, and repairs.

Fallacy of Average Rates

Face this situation squarely and the fallacy of an average rate is exploded forever. Instead we recognize as many elements of burden as possible, and while it is not necessary or desirable to apply these elements separately to the cost of each job, it is from every point of view desirable to identify the burden with the production centers through which it is charged to the jobs. For machine tools, under this plan, there is a charge to each job for the use of a tool as specific and as definite as the charge for the wages of the mechanic who operates the tool.

Bench Hands and Assembling Crews

The work of bench hands and mechanics on the erecting floor must be accompanied by a burden charge which obviously is not literally a machine-hour rate. The burden rate for bench equipment differs not at all in principle from the rates for the machine tools. If, as is usually the case, the mechanics at the bench work

under substantially uniform conditions, a uniform rate may be made at so much per hour for the use of the accommodations which they require for their work. In a large shop the bench rate might be different in different departments. Since it is uniform for all mechanics who work at the bench, it is practically a man-hour rate. It must be borne in mind, however, *that it is a rate for the use of equipment only,* unless indeed the circumstances make it convenient to merge the cost of supervision with the cost of equipment.

The erecting hands in a shop present a problem of a different kind. Their work usually requires a considerable area, and important charges for crane service and supervision. To speak of this work in terms which have long been familiar in cost accounting practice, the erecting floor may be considered as a department whose burden is to be distributed with reference to the work performed by the mechanics employed in the department. Probably the best way to distribute this burden is on a man-hour rate derived by dividing the total annual burden by the number of man-hours for the department.

General Burden

There are other charges connected with the management of a machine shop or manufacturing plant which are not necessarily well expressed through an hourly equipment rate. Such are charges for the drafting room, the bookkeeping, cost accounting, supervision, liability insurance, and general charges of management not specifically and directly connected with the maintenance and operation of machinery. These are charges which in a small shop should be applied in a fairly uniform way over all the employees in the establishment, preferably on a man-hour basis. This charge would be known as general burden, and since it would be uniform, it may be applied to the cost of each job, against which hours of mechanics' time have already been recorded, with very little additional work.

Why Scientific Machine Rates Are Important

The successful operation of a scientific machine rate is the most important development that has occurred in cost accounting practice in a generation. As these rates may be applied to the cost of jobs, the charge for burden which hitherto has been the difficult and uncertain part of cost accounting will be as accurate as the charge for direct labor. Furthermore, the use of equipment rates, in effect *a precision method* for the important part of overhead expense or burden, requires no more work in a cost office than the application of a rate which contains only part of these charges.

There are two good reasons for saying that a scientific machine rate is a development of tremendous importance in cost accounting practice. The first is that referred to in the opening paragraph of this article, namely, that it is essential when scientific management is introduced that there should be an *exact* measure of the saving which is effected by it. The literature on this subject has not thus far made a sufficient recognition of the very important fact that if an operative reduces the time on a given job from ten to seven hours, for example, he has not only saved three hours at his wage rate, but also three hours of the rate for the machine tool which he has used, and three hours of general burden. As will appear from the table annexed to this article, these overhead costs are frequently more important than the direct wage which has already received so much attention.

Cost accounting practice, moreover, which analyzes burden charges as described in the foregoing paragraphs would naturally make a very precise account of the increases in overhead expense of any kind. In some cases in connection with the introduction of scientific management, these increases would be in a particular department, and would operate to increase the burden which would be disposed of as a machine-hour rate for the tools in that department. Usually, however, the additional charges would operate to increase the general burden, which is one of the most important and at the same time, one of he most elusive elements of manufacturing cost.

A Measure of Loss Due to Slack Production and Inefficient Operation

The second reason for attaching so much importance to a *scientific machine rate* is that it *makes possible an accurate measure of the loss due to slack production or interrupted operation.* This is perhaps more important than the improved accuracy of cost records referred to above. When the board of directors is gathered at the end of the year, or once in six months to learn about the results of the period under review, they do not often consider such detailed matters as the cost of individual orders. On the other hand, they are always interested in an explanation which the manager has to make about losses that are due to curtailment of manufacturing operations.

The directors at such times would value more than anything else a clear statement showing *how much* their company had lost on this account, especially if the details of the statement could be readily understood and readily proved by an analysis of the operating conditions. The big problems, in regard to manufacturing, which the directors have to settle are those involved in the effort to make an efficient use of plant and equipment, especially if they are asked to decide on new additions to meet a probable volume of business. The new plant means an added investment, and it is of the utmost importance that the accounts should subsequently show to what extent this investment was utilized.

It is essential to distinguish clearly between losses or gains on machines actually made and sold, and losses due to slack production or inefficient use of equipment.

It must be borne in mind that the finished product has *absorbed only the burden of the equipment actually used in its manufacture.* It has not absorbed the burden of unused equipment or idle machinery. If the plant includes a foundry and the management decides to purchase castings, the idle foundry has contributed nothing to the product. It is obviously unfair to charge into the cost of goods the burden charges on the automatic machinery that may be idle because the management is buying and not making machine screws. If only three-quarters of the lathes run, the idle remainder have not helped machine parts actually manufactured, and although the plant may go into bankruptcy if it cannot utilize its equipment, the *cost of the work actually done is not greater on that account.*

The burden on idle machinery is no more a part of the cost of manufacture (unless due to enforced seasonal variations) than the burden on a shop owned by another corporation. When there is a proper distribution and application of expense burden, only the burden is charged to cost which represents the equipment utilized in manufacture, and burden not applied remains as a balance to be charged direct to the loss and gain account at the end of the month, six months, or a year (See diagram, page 60.)

This is readily accomplished through the means of burden accounts which collect by a very simple bookkeeping practice all of the charges in a given class, and receive credits as burden rates of the same kind as charged to the cost of product going through the works. The unearned burden in some cases may indicate an error which is to be corrected by using a more accurate rate in a subsequent period, but when proper records have been established, *the unearned burden is a clear loss,* and the balances of the burden accounts should be transferred directly to the profit and loss account.

I have sometimes referred to the manufacture of powder to illustrate this point. As a matter of safety the company builds small scattered plants, rather than bringing together one great manufacturing unit. If their production is to be curtailed they may shut down plants Nos. 2, 8 or 10, as the case may be. No one would contend that the cost of making powder in plant No. 3 is any greater because plants Nos. 2, 8 and 10 are shut down. A director of the Powder Company would be interested to see whether the plants as a whole run profitably, and whether they individually make a product that will sell at a profit. The corporation as a whole must suffer the losses due to idle plants.

Now that theory is just as applicable to the separate units of your plants. If you have twenty lathes in one department, you may run thirteen and shut down the other seven. You can keep out of the current cost the burden pertaining to the seven that are shut down just as easily as the Powder Company can keep the operation of the three idle powder plants out of the cost of those that operate.

Effect on Sales Policy

If the distinction is maintained between losses or gains on goods made and sold, and losses due to restricted output, the management will consider sales policies in a much more certain way than is possible when the facts are obscured in the haze of average costs, calculated on varying volumes of product. In respect to burden, it is frequently true that costs figured as averages vary beyond all hope of comparison as the volume of output goes up or down.

When a cost accounting practice is maintained that distinguishes carefully between prime costs for material and labor, (which vary almost directly with the volume) and overhead charges or burden, the managers can see exactly in times of slack production at what price they can take any work that is offered and get something to carry the burden of the shop, in addition to the direct cost of labor and material. This, it must be admitted, is to some extent a matter of policy, for it may be better to hold a price and restrict output, rather than break the market by quoting prices that will give temporarily a little additional profit.

A Measure of Manufacturing Efficiency

Whatever the effect on sales policy, good cost accounting, including correct burden distribution, is a matter of enduring importance from the point of view of manufacturing. Changes in volume may completely obscure gains or losses in efficiency, and render comparative costs of similar jobs impossible from season to season, solely because of the variations in the amount of business done. Exact costs, comparable under all conditions, are not to be secured unless the burden charged to production is only that appertaining to the equipment that is actually at work.

From the manager's point of view, the significant fact is that the burden, which it is proposed to apply through a series of equipment rates, is not appreciably less when the operating schedule of the plant is reduced. It is true that power charges may be slightly less, but the fixed charges for building space, interest, insurance, taxes, depreciation, and in some circumstances for repairs also, are no less when the machines are idle. *The manager of a machine shop cannot make a greater mistake in figuring costs than to charge a higher burden in any form whatsoever for the operation of part of his equipment, because the rest of it is temporarily idle, or a higher rate for a smaller labor force because the plant is working on part time. These differences which have always attracted the attention of observing managers are almost entirely clear loss or waste, and should be recognized as such and charged directly to the profit and loss account.*

A Practical Example

The practical manager who regards these ideas as too theoretical will do well to inspect the following list which shows the results of working out a machine-hour rate for direct operating burden in a plant operating about one hundred and fifty machines.

Number of Machines		Rates in cents	Number of Machines		Rates in cents
6	at	1.5	12	at	7.0
4	"	2.0	12	"	8.0
9	"	2.5	7	"	8.7
4	"	3.0	4	"	9.0
6	"	4.0	3	"	9.5
2	"	5.0	10	"	10.0
4	"	6.0	3	"	11.0
10	"	6.6	13	"	12.0
2	"	13.0	3	"	24
2	"	14	2	"	25
11	"	15	1	"	26
1	"	17	1	"	29
3	"	18	2	"	30
1	"	19	1	"	47
1	"	20	1	"	52
1	"	22	1	"	76
4	"	23			

If one is disposed to criticise the minute division that has been made, such as having rates at 8c, 8.7c, 9c, 9.5c and 10c, it should be borne in mind that there is practically no more work in the cost accounting department in using five rates instead of two. Moreover, if an effort is made to combine some of these rates, it is exceedingly hard to say which rates should be raised and which should be lowered. If five rates like those mentioned above should be brought together, some of the rates would be at least 15% out of the way. Such an error is altogether too large to be tolerated unnecessarily, when one is seeking for really accurate costs.

At the plant where these rates are in force the burden for erecting hands, including the charges for floor space, crane service and

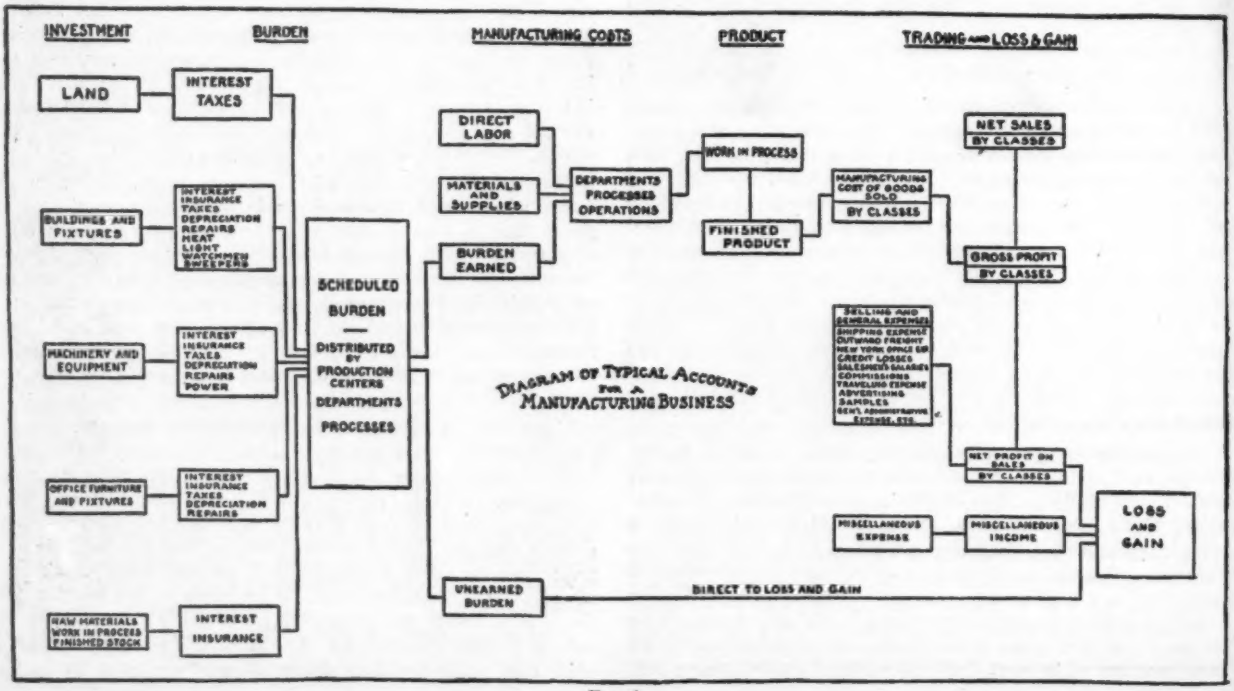

FIG. 1

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supervision, were *five times the rate for bench hands*. In addition to these rates every employee participates in a general burden which includes superintendence, managers, drafting, cost accounting, and all general charges, except those connected with selling expenses.

Inaccuracy of the Old Methods

The results which have been secured in working out these machine rates need only be stated to a practical man to show the violent inaccuracy which there must have been in cost accounting when overhead charges were applied as a percentage of productive labor, or even on a uniform man-hour basis. The following figures will supply a vivid illustration of the inaccuracy of the old method:

Job No. 1		Job No. 2	
5 hours labor at 28c.....	$1.40	5 hours labor at 28c.....	$1.40
5 hours burden on the average plan at 30c.....	1.50	5 hours burden on the average plan at 30c.....	1.50
Total cost	$2.90	Total cost	$2.90

At the same wage the two jobs show the same cost because they took the same time, although job No. 1 may have used a machine worth 3c per hour and job No. 2 a machine worth 24c per hour, or even one worth 50c per hour or more. Under these conditions, and assuming a general burden rate of 10c per hour, the true cost of these two jobs was as follows:

Job No. 1		Job No. 3	
5 hours labor at 28c.....	$1.40	5 hours labor at 28c.....	$1.40
5 hours machine rate at 3c..	.15	5 hours machine rate at 24c.	1.20
5 hours general burden at 10c	.50	5 hours general burden at 10c	.50
Total cost	$2.05	Total cost	$3.10

This is a very conservative comparison. If job No. 2 required a machine worth 60c per hour, the cost would have been $1.40 plus $3.00 plus $ .50 $4.90. The percentage on labor method, or a straight man-hour rate in the shop, would show that these three jobs had the same cost, although as a matter of fact, in the second case the cost was 151% and in the third case 239% greater than the first.

Perhaps the best thing that can be said about cost accounting practice by machine-hour methods is that it does not require any more work than any of the older methods that have been well developed as a means for taking out costs. At the plant from which the above illustration is drawn, it is not expected that there will be any increase in the cost accounting force for the operation of the plan as outlined. Of course, if a plant with an under-developed cost practice, or none at all, starts to make improvements in a wholesale way, it must expect to increase the overhead charges. If this increase is wisely planned, it is sure to be a money making expenditure.

Mass Production and Automatic Machines

As noted earlier in this article, there are some conditions, of course, under which a machine rate cannot be used to distribute burden, *but the underlying principle of collecting all burden charges for each production center is sound, whatever method may be used for distribution.* Some operations can best use a process rate, which includes labor and accessory supplies as well as burden. This method is particularly applicable to mass production or any work that is not made on successive and clearly distinguished manufacturing orders. The application of overhead changes, however, can be made through a process rate strictly in accordance with approved principles of burden distribution.

Automatic or semi-automatic machines present a troublesome problem of burden distribution, especially as the burden is usually far more important than the labor as an element of manufacturing cost. This problem has been handled at a plant operating several hundred automatic machines by a plan of efficiency charts, which provide for charging to the job the cost of the effective operation of the machine. Cost accounts under this plan measure with great precision the loss due to slack production or careless attention from the operator.

Conclusion.—There are still some managers who do not realize the importance of a good cost and accounting practice, but the knowledge it supplies is undoubtedly a valuable business asset, as well as a powerful aid to efficient management. The best possible evidence for this statement is that progressive and successful manufacturing enterprises are making liberal expenditures for work of this character.

The present day trend of business is undoubtedly in the direction of a more exact and scientific knowledge of every important detail. Success by rule of thumb, or from energy and enthusiasm alone, is becoming more and more impossible. "The man who knows and knows that he knows" is a man who wins.

After concluding the paper, Mr. Scovell said: "If any of you gentlemen would like to ask questions or put in some counter-fire, if it is consistent with the custom of your Convention, I shall be very glad to have you do so."

(Discussions to follow next week)

Paper Makers' Directory of All Nations

It is interesting to compare the size of the present issue of the "Paper Makers' Directory of All Nations" for 1927 with that of 30 years ago. First published in 1884 and now in its 36th edition, the number of pages has increased from 456 in 1897 —since which date it has been published annually—to over 1,050 in the current volume (published at 21/—net).

The British section then consisted of 72 pages; it now extends to 208, while the additional details included have affected other principal countries as follows:—Canada, then 6 pages, now occupies 16; France, then 30 pages, now 40; Germany, then 43, now 119; Italy, then 11, now 27; Scandinavia, then 22, now 51; Spain, then 7, now 14; U. S. A., then 62, now 84. The Mill Productions' List also, which ocupied 100 pages in 1897, now consists of 220 pages.

The Mill entries in respect to Great Britain are designed to give location, production, number and width of machines, tonnage output, power used, etc., and those, with many lists of Allied Trades, including Wholesale Stationers and Paper Merchants, Waste Paper, Rag and Paper Stock Dealers, Cardboard Box Manufacturers, China Clay Producers and Merchants, Paper Bag Makers, Paper Agents and Mill Representatives, Expert Merchant Shippers of Paper, etc., form the first portion of the work. The second similarly deals with the Paper, Pulp and Board Mills in Foreign Countries and British Dominions Oversea; the third sets out the list of Mill Productions arranged in three ways: (1) class of goods manufactured under more than 400 Trade headings, (2) country of origin, and (3) name of firm.

Several firms who advertised in the 1897 Directory are today still represented in its advertisement pages and their names appear in the "Classified Index to Commercial Prospectuses," which forms a particularly useful Buyers' Guide on pp. xiii-xxxvii.

Dean's Directory may be obtained from the Lockwood Trade Journal Company, 10 East 39th Street, New York, $7.00 postage paid.

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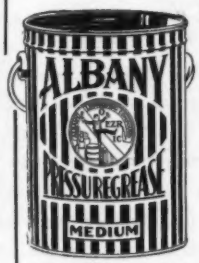

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News print .....1,088 rolls
Printing paper .....43 rolls, 36 cs.
Wrapping paper .....11 cs.
Packing paper .....19 rolls, 8 bls., 10 cs.
Sulphate paper .....153 rolls
Decalcomania paper .....48 cs.
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Colored paper .....8 cs.
Tissue paper .....12 cs.
Stencil paper .....67 cs.
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Gold coated paper .....5 cs.
Baryta coated paper .....148 cs.
Basic paper .....44 cs.
Filter paper .....17 bls., 8 cs.
Drawing paper .....52 cs.
Straw board .....366 rolls
Miscellaneous paper .....62 rolls, 161 bls., 137 cs.

CIGARETTE PAPER

Standard Products Corp., Schodack, Havre, 60 cs.
R. J. Reynolds Tobacco Co., Schodack, Havre, 200 cs.
Liggett & Myers Tobacco Co., La Bourdonnais, Bordeaux, 18 cs.
Max Spiegel & Son, La Bourdonnais, Bordeaux, 9 cs.
Standard Products Corp., De Grasse, Havre, 120 cs.

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A. C. Dodman, Jr., Inc., Adriatic, Liverpool, 2 crates.
A. C. Dodman, Jr., Inc., Laconia, Liverpool, 2 bls.
F. J. Emmerich, Laconia, Liverpool, 2 cs.
F. J. Emmerich, Majestic, Southampton, 2 cs., 1 ble.
S. Stern, Stiner & Co., Westphalia, Hamburg, 6 bls.
Globe Shipping Co., Westphalia, Hamburg, 6 bls.
Thomas & Pierson, Berengaria, Southampton, 1 cs.
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PAPER HANGINGS

W. H. S. Lloyd & Co., Minnesota, London, 4 cs., 9 bls.
W. H. S. Lloyd & Co., Laconia, Liverpool, 1 cs.
Whiting & Patterson, Inc., Majestic, Southampton, 2 cs.
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Keuffel & Esser Co., Westphalia, Hamburg, 51 cs.

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Japan Paper Co., De Grasse, Havre, 4 cs.
Tamm & Co., Westphalia, Hamburg, 1 cs.
Keuffel & Esser Co., Westphalia, Hamburg, 20 cs.
F. Henjes, Jr., Westphalia, Hamburg, 62 rolls.
Perkins, Goodwin & Co., Westphalia, Hamburg, 161 bls.
Freedman & Slater, Westphalia, Hamburg, 9 cs.
Schencker's, Inc., Westphalia, Hamburg, 3 cs.
Standard Products Corp., Paris, Havre, 40 cs.
Keller Dorian Paper Co., Paris, Havre, 8 cs.
B. Altman & Co., Paris, Havre, 19 cs.
E. Dietzgen & Co., Zinal, Marseilles, 21 cs.
Heesmoth, Basse & Co., Columbus, Bremen, 9 cs.

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E. Butterworth & Co., Inc., Schodack, Dunkirk, 31 bls. jute cuttings.
R. Bishop Manfg. Co., Shodack, Dunkirk, 182 bls. rags.
W. Steck & Co., Schodack, Havre, 68 bls. jute cuttings.
V. Galaup, Schodack, Havre, 87 bls. rags.
General Fiber Co., Schodack, Havre, 4 bls. rags.
Manufacturers Trust Co., Bremen, Bremen, 93 bls. bagging.
I. Abela & Co., Pres. Wilson, Malta, 152 bls. rags.
American Exchange Irving Trust Co., Sinaia, Constantinople, 1,459 bls. old cottons.
Brown Bros. & Co., Laconia, Liverpool, 10 bls. rags.
Equitable Trust Co., Laconia, Liverpool, 39 bls. rags.
Central National Bank, Laconia, Liverpool, 5 bls. rags.
E. J. Keller Co., Inc., West Eldara, Antwerp, 160 bls. flax waste.
Louis Cohen, West Eldara, Antwerp, 10 bls. rags.
Stern & Son, West Eldara, Antwerp, 3 bls. rags.
E. Mayer, West Eldara, Antwerp, 171 bls. rags.
Bulkley, Dunton & Co., Westphalia, ——, 41 bls. rags.
A. W. Fenton, Inc., Cape Town Maru, Hamburg, 188 bls. rags.
Castle & Overton, Inc., East Side, Dublin, 90 bls. rags.
Union National Bank, Zinal, Barcelona, 77 bls. rags.
Banco Com'l Italian Trust Co., Zinal, Marseilles, 224 bls. rags.
Castle & Overton, Inc., Exeter City, Bristol, 130 bls. rags.
C. R. Spence, Exeter City, Bristol, 610 bls. rags.
Darmstadt, Scott & Courtney, Liberty, Dunkirk, 179 bls. rags.
W. Steck & Co., Liberty, Dunkirk, 111 bls. rags.
Chase National Bank, Zeriba, Alexandria, 47 bls. rags.
Bank of N. Y., Zeriba, Alexandria, 135 bls. rags.
E. J. Keller Co., Inc., Zeriba, ——, 182 bls. rags.
Castle & Overton, Inc., Talisman, Antwerp, 145 bls. rags.
American Exchange Irving Trust Co., Talisman, Antwerp, 96 bls. flax waste.
E. J. Keller Co., Inc., Talisman, Antwerp, 36 bls. bagging.
Darmstadt, Scott & Courtney, Talisman, Antwerp, 225 bls. bagging.
Royal Manfg. Co., Talisman, Antwerp, 48 bls. thread waste.
E. J. Keller Co., Inc., La Bourdonnais, ——, 5 bls. rags.
E. J. Keller Co., Inc., G. Washington, Bremen, 48 bls. rags.
Phila. Girard National Bank, G. Washington, Bremen, 37 bls. rags.
A. H. Searle & Co., G. Washington, Bremen, 44 bls. rags.
Darmstadt, Scott & Courtney, Sinsinawa, Oran, 257 bls. rags.

OLD ROPE

Brown Bros. & Co., Exeter City, Bristol, 191 coils.

MANILA ROPE

Ellermans' Wilson Line, Majestic, Southampton, 40 coils.

CHINA CLAY

L. A. Salomon & Bros., Exeter City, Bristol, 25 casks, 112 bags.

CASEIN

A. Klipstein & Co., Schodack, Havre, 207 bags, 20,040 kilos.
Kalbfleisch Corp., American Legion, B. Aires, 778 bags.
Guaranty Trust Co., American Legion, Buenos Aires, 250 bags.
Aladdinite Co., United States, Copenhagen, 5 bags.
Karolith Corp., Paris, Havre, 201 bags.

WOOD PULP

M. Gottesman & Co., Inc., Pres. Wilson, Trieste, 665 bls. wood pulp.
Johanson, Wales & Sparre, Inc., Casper, Hernosand, 1,200 bls. sulphite, 200 tons.
Johanson, Wales & Sparre, Inc., Casper, Hernosand, 3,024 bls. sulphate, 504 tons.
Buck, Kiaer & Co., Inc., Tyrifjord, Oslo, 2,250 bls. sulphite.
Chemical National Bank, Bergensfjord, Oslo, 300 bls. sulphite.
Perkins, Goodwin & Co., Bergensfjord, Oslo, 450 bls. chemical pulp.
E. M. Sergeant & Co., Gustavsholm, Gothenburg, 449 bls. dry soda pulp.
E. M. Sergeant & Co., United States, Oslo, 500 bls. chemical pulp.
W. Hartman & Co., Cape Town Maru, Hamburg, 125 bls. wood pulp, 25 tons.
E. J. Keller Co., Inc., Cape Town Maru, Hamburg, 500 bls. wood pulp, 77 tons.
Equitable Trust Co., Talisman, Antwerp, 217 bls. wood pulp.
Castle & Overton, Inc., Talisman, Antwerp, 23 bls. wood pulp.
Castle & Overton, Inc., Ambridge, Rotterdam, 601 bls. wood pulp, 97 tons.

WOOD PULP BOARDS

Lagerloef Trading Co., Casper, Raumo, 36 bls., 11 tons.

WOOD FLOUR

B. L. Soberski, Tyrifjord, Frederickstad, 3,375 bags.
State Chemical Co., Ambridge, Rotterdam, 652 bags, 34,670 kilos.
F. B. Vandegrift & Co., Ambridge, Rotterdam, 400 bags, 32,580 kilos.

(*Continued on page 66*)

Cotton and Paper Rolls
Super Calenders
Friction Calenders
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Successors to the Granger Foundry & Machine Co.

The Textile-Finishing Machinery Company
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THE ROLAND T. OAKES CO., Holyoke, Mass.
Electrical Specialists. ***Established 1885***

Imports of Paper and Paper Stock

(*Continued from page 64*)

BOSTON IMPORTS

WEEK ENDING AUGUST 6, 1927

G. F. Malcolm & Co., Laconia, Liverpool, 7 cs. tissue paper.

E. J. Keller Co., Inc., Nebraskan, ——, 100 bls. bagging.

Buck, Kiaer & Co., Inc., Korsholm, Stockholm, 1,200 bls. sulphite pulp.

National Shawmut Bank, Talisman, Antwerp, 94 bls. wrapping paper.

National Shawmut Bank, Talisman, Antwerp, 164 bls. rags.

E. Butterworth & Co., Inc., Talisman, Antwerp, 28 bls. rags.

Webster Atlas National Bank, Talisman, Antwerp, 103 bls. flax waste.

Spaulding Fiber Co., Talisman, Antwerp, 237 bls. flax waste.

National City Bank, Talisman, Antwerp, 57 bls. rags.

American Exchange Irving Trust Co., Talisman, Antwerp, 25 bls. rags.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 6, 1927

S. E. Ingber, West Arrow, Rotterdam, 359 bls. rags.

Johanson, Wales & Sparre, Inc., Casper, Hernosand, 1,740 bls. sulphate, 290 tons.

Pagel, Horton & Co., Inc., Casper, Husum, 600 bls. sulphite, 100 tons.

Pagel, Horton & Co., Inc., Casper, Husum, 7,200 bls. sulphate, 1,200 tons.

Perkins, Goodwin & Co., Casper, Obbola, 3,500 bls. wood pulp, 500 tons.

G. M. Graves & Co., Saco, Antwerp, 86 bls. rags.

Castle & Overton, Inc., Saco, Antwerp, 445 bls. rags.

M. Friedman, Saco, Antwerp, 46 bls. rags.

S. Birkenstein & Son, Saco, Antwerp, 92 bls. rags.

Baring Bros. & Co., Saco, Antwerp, 220 bls. rags.

Paper House of Penna., Gustavsholm, Stockholm, 138 rolls news print.

E. M. Sergeant & Co., Gustavsholm, Gothenburg, 2,393 bls. dry soda pulp.

E. M. Sergeant & Co., Gustavsholm, Gothenburg, 200 bls. sulphite.

M. Gottesman & Co., Inc., Gustavsholm, Gothenburg, 1,000 bls. sulphite.

Paper Manfg. Co., Gustavsholm, Gothenburg, 18 bls., 566 rolls paper.

The Borregaard Co., Inc., Gustavsholm, Gothenburg, 9 bls., 41 rolls paper.

Quaker City Paper Co., Gustavsholm, Gothenburg, 86 bls., 531 rolls paper.

D. L. Ward & Co., Gustavsholm, Gothenburg, 209 rolls paper.

J. A. Steer & Co., Gustavsholm, Gothenburg, 70 bls. old rope.

J. A. Steer & Co., Exeter City, Bristol, 273 bls. old rope.

C. B. Richard & Co., Exeter City, Bristol, 227 bls. rags.

Chase National Bank, Exeter City, Bristol, 162 bls. rags.

Bank of the Manhattan Co., Exeter City, Bristol, 77 bls. rags.

Stephano Bros., Liberty, Havre, 25 cs. cigarette paper.

Salomon Bros. & Co., Liberty, Havre, 35 bls. rags.

V. Galaup, Liberty, Havre, 124 bls. rags.

Atlas Waste Manfg. Co., Liberty, Havre, 110 bls. rags.

E. A. Stone & Co., Liberty, Dunkirk, 213 bls. rags.

Castle & Overton, Inc., Liberty, Dunkirk, 34 bls. rags.

E. Butterworth & Co., Inc., Liberty, Dunkirk, 91 bls. rags.

Atlas Waste Manfg. Co., Liberty, Dunkirk, 110 bls. rags.

Katzenstein & Keene, Inc., Liberty, Dunkirk, 171 bls. rags.

Darmstadt, Scott & Courtney, Liberty, Dunkirk, 158 bls. rags.

Chase National Bank, Sinsinawa, Algiers, 420 bls. rags.

Darmstadt, Scott & Courtney, Sinsinawa, Oran, 294 bls. rags.

E. J. Keller Co., Inc., Justin, Bremen, 190 bls. rags.

Castle & Overton, Inc., London Mariner, London, 19 bls. rags.

Castle & Overton, Inc., Malmen, Sweden, 600 bls. wood pulp.

Buck, Kiaer & Co., Inc., Ivar, Oslo, 400 bls. sulphite pulp.

Buck, Kiaer & Co., Inc., Ivar, Oslo, 400 bls. kraft pulp.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 6, 1927

Congoleum Nairn Co., Schodack, Havre, 197 bls. rags.

Congoleum Nairn Co., Schodack, Dunkirk, 49 bls. rags.

Baltimore News & American, Gustavsholm, Hallstavik, 1,289 rolls news print.

Johanson, Wales & Sparre, Inc., Gustavsholm, Gothenburg, 2,266 bls. sulphate.

Johanson, Wales & Sparre, Inc., Gustavsholm, Gothenburg, 1,400 bls. sulphite.

E. M. Sergeant & Co., Gustavsholm, Gothenburg, 1,354 bls. dry soda pulp.

Baxter Paper Co., Gustavsholm, Gothenburg, 11 bls. paper.

Congoleum Nairn Co., West Eldara, Antwerp, 575 bls. rags.

Chase National Bank, West Eldara, Antwerp, 213 bls. rags.

G. M. Graves Co., East Side, Dublin, 177 bls. rags.

Castle & Overton, Inc., Ambridge, Rotterdam, 180 bls. wood pulp.

Chase National Bank, Ambridge, Rotterdam, 222 bls. rags.

Certainteed Products Corp., Ambridge, Rotterdam, 133 bls. rags.

E. J. Keller Co., Inc., Seostris, Hamburg, 270 bls. rag pulp.

NORFOLK IMPORTS

WEEK ENDING AUGUST 6, 1927

Old Dominion Paper Co., Casper, Kotka, 115 rolls news print.

M. Gottesman & Co., Inc., Casper, Helsingfors, 910 bls. wood pulp, 151 tons.

E. Butterworth & Co., Inc., West Eldara, Antwerp, 67 bls. bagging.

Carolina Bagging Co., Ambridge, Rotterdam, 57 bls. bagging.

Buck, Kiaer & Co., Inc., Mexicano, Oslo, 200 bls. sulphite.

NEW ORLEANS IMPORTS

WEEK ENDING AUGUST 6, 1927

Castle & Overton, Inc., Cranford, France, 231 bls. rags.

Castle & Overton, Inc., West Totant, England, 132 bls. rags.

Boston Paper Business Improves

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 8, 1927.—Improvement has developed in some quarters of the paper market. Conditions appear fairly good for the summer season, with a favorable prospect. While the Holyoke mills have been shut down during the past week with few orders, it is understood that the manufacturers in that city are looking for better business in September. More inquiry has developed for fine papers in some quarters. Handlers of kraft paper say that the volume of business is fairly satisfactory. The Southern Kraft Manufacturers Association, New Orleans, Louisiana, are apparently hopeful of selling their product here for they have been circularizing dealers in their product.

The box-board market is understood to be considerably better and rather active for this time of the year. While there has been no change in prices there seems to be a firmer tone in the better grades of box-board. Orders are increasing slightly over deliveries, and shipments are a little bit slower than they have been for some time, with indications that from now on fore-sighted buyers will do well to place their orders as far ahead as possible. One mill manufacturing box-board now has orders some three weeks ahead. Chip board is quotable at $45 per ton, delivered New England points, and filled news board at $47.50. Single manila pulp lined board is quoted at $55 to $60, and single white patent coated board bender at $75 to $82.50.

In old papers the condition is about the same. Mixed papers are unchanged in price. The paper stock situation is generally quiet. Bagging shows no change. The activity in new domestic rags is estimated to be no greater.

Sulphite has been supplanting rags in the manufacture of fine papers to a considerable extent. A Boston dealer recently bought a considerable quantity of rags which had been in store in Holyoke, Mass., since 1925. Roofing stock is slow with a downward tendency, if anything.

Pulp and Paper Education Program

The vocation schools of the State of Wisconsin have inaugurated a state wide program for pulp and paper education. The cities of Appleton, Neenah, Menasha, Kaukauna, Green Bay, Marinette, Wisconsin Rapids, Stevens Point, Wausau, Rhinelander, and Eau Claire will sponser this program. They have engaged Harold G. Noyes, Department of Pulp and Paper, Fox River Valley Vocational Schools, to head up the program, which will consist of three major phases: one, part time work for boys under 18 years of age; two, trade extension work with adults employed in the industry; and third, teacher training and working with classes in the industry. All this work will be of less than a college grade. If the plans materialize, two instructors will be needed, one of whom will probably be assigned to the Appleton district, and the other to the Green Bay district. Later on, after surveys have been completed and class work organized, an instructor will probably be placed in the Wisconsin River Valley.

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, August 10, 1927.

Although the business transacted in the local paper market during the past week was rather light, and mostly along routine lines, the condition of the industry is satisfactory for the time of the year, and the outlook for the closing months is encouraging. Demand for the various grades of paper has been "spotty." This trend, however, is anticipated during the hot summer months, and is believed to be only temporary. Prices are generally being well maintained, and shading is infrequent.

Consumption of news print is well up to the average for August and contract withdrawals are proceeding at a normal pace. Spot trading, however, is rather quiet, and offerings are sufficiently large enough to take care of current requirements. Prices are holding up to the schedule that has prevailed for some considerable time.

Production of paper board has increased and the demand for the various grades is improving. With the exception of single manila lined chip, which is now offered at from $55 to $55.70, prices remain unchanged. The fine paper market is exhibiting a slightly stronger undertone while tissues continue in fair request. The coarse paper market is also in a sound condition, and wrapping paper is moving in excellent volume.

Mechanical Pulp

Conditions in the ground wood market remain quiet, and production has apparently been rather liberal of late, when the light demand experienced is taken into consideration. Prices of both domestic and imported mechanical pulp are somewhat easier. No. 1 domestic is quoted at from $27 to $30, f.o.b. mill and No. 1 imported moist is selling at from $28 to $30, ex dock, Atlantic ports.

Chemical Pulp

No further developments have transpired in the chemical pulp market. Most of the business transacted during the past week was for immediate requirements. Shipments against contract continue to move into consumption at a normal rate. Quotations remain unchanged from the previously reported levels.

Old Rope and Bagging

The old rope and bagging market is practically unchanged. Demand for the various grades of old rope is seasonal, and prices are being well maintained, in most instances. The paper mills are displaying a moderate interest in bagging. Offerings are reported to be ample and prices remain unaltered, with the exception of foreign gunny No. 1, which is firmer, and is now being offered at from 1.80 to 1.90.

Rags

Both imported and domestic rags have only been in moderate demand. Quotations on new unbleached domestic shirt cuttings have declined to from 10.25 to 10.75 and blue overall to from 6.75 to 7.25. Foreign medium light prints have advanced to from 1.90 to 2.10 and dark cottons to from 1.55 to 1.60. Lindsay garments are now selling at from 1.70 to 1.75 and shippery at from 1.50 to 1.55.

Waste Paper

The paper mills are beginning to take more interest in the paper stock market. Judging from the increased volume of inquiries being received, conditions in this branch of the industry should become more lively in the near future. No. 1 white news, overissue news, old kraft machine compressed bales, ledgers and writings, and shavings are all in steady request. Quotations remain unaltered.

Twine

While the twine market continues in a strong condition, business appears to be marking time at present. However, a general expansion of trading is expected to take place after Labor Day. According to some observers of the market, prices are rather lower than justified. Firmer conditions are predicted when the holiday season ends, and business activities commence to expand once more.

Blaw-Knox Co. Buys Milliken Bros.

The Blaw-Knox Company, with general offices at Pittsburgh, Pa., and with plants at Blawnox, Pa., and Baltimore, Md., has purchased the Milliken Brothers Manufacturing Company, of New York. The consolidation of the two companies will become effective on September 1.

The Blaw-Knox Company is well known because of its line of steel specialties, including steel forms for concrete construction, steel buildings, open hearth furnace equipment, air preheaters, hammer welded products, steel transmission towers, automatic concrete measuring devices, steel bins, clamshell buckets, etc.

The Milliken Brothers Manufacturing Company was originally organized as Milliken Brothers, Inc., in 1857. The products of the Milliken Brothers Manufacturing Company are transmission towers, radio towers, and standard steel buildings. A considerable amount of the business of the Milliken Brothers Manufacturing Company has been in the export field and the present Milliken organization will continue to function in this field and in addition will take over the management of the export business of the Blaw-Knox Company on all of its products.

The Blaw-Knox Company will continue with its present organization to handle domestic business and the acquisition of the Milliken company will make no change in this line. Manufacturing for both companies will be concentrated at the Blaw-Knox Company plants at Pittsburgh and Baltimore.

Emil G. Leloff Buried

ERVING, Mass., August 1, 1927.—The funeral of Emil G. Leloff, for the past nine years Assistant Superintendent of the Erving Paper Mills, was held Monday afternoon of last week, at three o'clock at his home and interment was made in Wisconsin Rapids, Wis., on Wednesday. Mr. Leloff was forty-four years old and leaves besides his widow a daughter and five brothers, three of whom are engaged in papermaking in the East and two in the Wisconsin district. Mr. Leloff was born in Germany but came to this country as a small child and spent the majority of his life, until he came to Erving, in Wisconsin Rapids, Wis.

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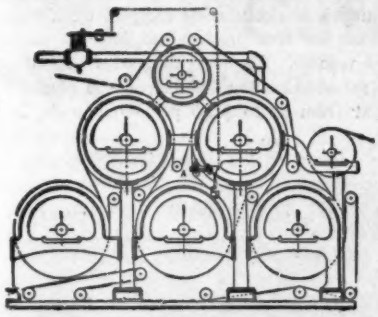

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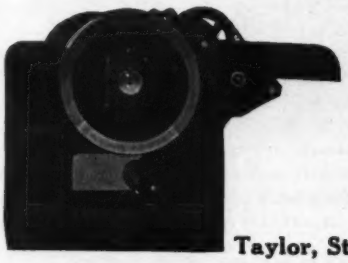

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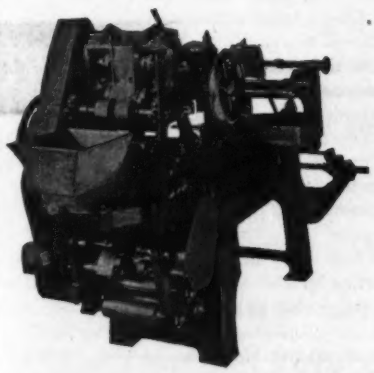

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, August 10, 1927.

While the amount of new business transacted in the local chemical market during the past week was moderate, this condition is only seasonal, and the industry is in a very sound condition. Manufacturers of chemicals used in the paper mills report that shipments against contracts previously entered into continue to go forward in excellent volume. Quotations are generally holding up to schedule, and concessions are infrequent.

BLANC FIXE.—Steadiness prevails in the blanc fixe market, and both the pulp and the powder continue in good demand. Contract withdrawals are moving into consumption at a normal pace. Prices remain unaltered. The pulp is quoted at $60 per ton, in bulk. The powder is still selling at from 4 cents to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder is satisfactory for the time of the year. Contract shipments are moving at an excellent rate. Spot business is mostly routine. Prices are holding up to schedule. Bleaching powder is offered at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—Trading in the casein market has quietened down somewhat, and both the foreign and domestic products are in lighter request. No further price changes have been recorded recently. Domestic casein is selling at from 18 cents to 18½ cents per pound. Imported casein is quoted at from 17½ cents to 18 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Consumption of caustic soda continues on heavy lines, and production has been speeded up to take care of the expansion. Contract withdrawals have been large, and prices are being maintained without difficulty. Caustic soda is quoted at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are selling at from $3.20 to $3.25 per 100 pounds.

CHINA CLAY.—There has been a keener disposition to place additional orders for both imported and domestic paper makers' clay of late. Prices are holding up to previously reported schedules. Imported china clay is selling at from $15 to $25 a ton, ship side. Domestic paper makers' clay is offered at from $8 to $9 a ton, in bulk, at mine, and pulverized at from $10 to $12 per ton.

CHLORINE.—Large shipments of chlorine continue to move into consumption. Demand for this product continues excellent for the season and prices are holding up to the levels which have prevailed since the beginning of the year. Chlorine is quoted at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 4¼ cents to 4½ cents a pound.

ROSIN.—Some improvement has been noticed in the rosin market. Demand is reported to be expanding and prices are much firmer than of late. At the naval stores, the grades of gum rosin used in the paper mills are now offered at $11.00 per 280 pounds, in barrels, ship side. Wood rosin is still selling at $9.50 per 280 pounds, southern shipping points.

SALT CAKE.—Exceptionally strong conditions prevail in the salt cake market. The demand is most insistent and, with offerings somewhat limited, quotations remain very steady. Contract shipments continue to go forward at a good pace. Salt cake is still quoted at from $18 to $19 a ton, in bulk, at works. Chrome salt cake is offered at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Production has been satisfactory, and the output is being absorbed in good style. Accumulations are limited. Shipments against contract are moving in a normal manner. Contract quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.20; in bags, $1.32½; and in barrels, $1.57½.

STARCH.—During the past week business in the starch market was well maintained. Contract withdrawals are moving into consumption at a good pace. Prices are inclined to be firm, due to the position of raw material. Special paper makers' starch is selling at $3.07 per 100 pounds, in bags, and at $3.24 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Most of the business transacted in the sulphate of alumina market during the past week was along routine lines. Supplies of this product continue to move into consumption in good volume. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.45 per 100 pounds. The iron free is selling at from $2 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—The sulphur market is practically unchanged. Demand for this product is seasonal and the movement of shipments against contract is normal for the period of the year. Prices are holding up to previously quoted levels. Sulphur is still quoted at from $18 to $19 a ton, in bulk, at mine. The spot quotation is $20 per ton.

TALC.—No radical changes were recorded in the talc market during the past week. The demand from the paper mills recently has been satisfactory and prices are being well maintained. Quotations on domestic talc range from $16 to $18 a ton, at eastern mines. French talc is still quoted at from $18 to $22 a ton, ship side.

Union Makes Plans for Technical Education

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., August 8, 1927.—The educational committee of the International Brotherhood of Papermakers appointed recently by W. R. Smith to investigate and report on the best procedure for carrying out the organization's educational program, has completed its work and the report, covering six typewritten pages, will be filed with members of the executive board. The educational program being mapped by the Brotherhood for members of the organization is in accordance with the resolution adopted at the convention last March and later approved by a vote.

The commitee, consisting of Frank P. Barry, first vice president; M, J. Burns, secretary; R. E. Burkhart, of Iroquois Falls, Ont.; Chester Jordan, of Kenora, Ont., and Thomas McGrath, of Escanaba, Mich., ended its recent trip in this city and after three days' discussion compiled its report. Members of the executive board are expected to study the recommendations and with President Smith will probably decide the next step to be taken.

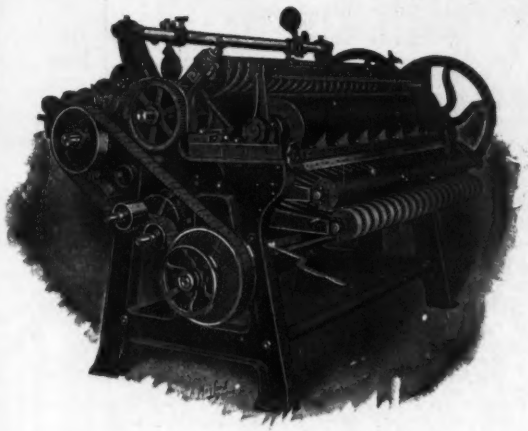
The committee had its first meeting in Montreal July 18 at which time R. E. Burkhart was chosen chairman and M. J. Burns secretary. Later the committee visited a number of universities and schools where technical papermaking subjects are taught. These included McGill University, of Montreal, Gardenvale, Quebec, Three Rivers, Quebec, Boston, Mass., Holyoke, Mass., and other places.

The committee in its report leaves much of the work to be done by local unions and recommends that these unions should create an interest in the educational plans and appoint a committee of three as the first step. This committee, the report recommends, should make a survey of the existing needs of a locality from the standpoint of educating the papermakers along technical lines and also to ascertain what equipment will be necessary to promote and carry on the educational work.

The committee report to the executive board further states that it has found that educational facilities at present available are sufficient to cover any requirements and that only a strong bond of mutual assistance is necessary to make these a success. The committee recommends that a course of class studies be set up in the different communities, using text books compiled by the Vocational Education Committee of the Paper Industry as a basis for the studies.

It remains to be seen how local unions will take hold of the proposition. At the meeting of the committee in this city some members expressed the feeling that local unions in many instances will avail themselves of the proposition for giving the membership a technical education in papermaking although it was admitted that there would probably be some confusion and possibly discouraging features at the inception of the plan.

Paper Cutters
Single, Duplex and Diagonal



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(Since 1868)

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17 East 45th St. NEW YORK, N. Y.

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Advance Bag & Paper, 7s 1943	105	107
A. P. W. Pulp & Power, 7s 1945	101	102
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	85	90*
Beaver Products Corp., 7½s 1942	106	109
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	100½	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	99	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	95	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	101	102½
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	89	91
Eddy Paper, 7½s 1931	102	104
Escanaba Paper Serial, 6s 1926-39	94	96
Fuer Fibre Serial, 7s 1926-39	95	...
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.), 7s 1937	104	106
Gilbert Paper Co., 6½s 1926-29	89	...
Hammermill Paper, 6s 1939	100	103*
Hoberg Paper & Fibre, 7s 1937	94½	96
Itaska Paper & Prairie River Power, J+5½s 1926-38	94	96*
Itaska Paper 1st, 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	103½	105
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	103	...
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	104	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	96½	98½
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Poland Paper, 7s 1930	98	...
Port Alfred Pulp, 6½s 1943	*96	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	93	95
St. Anne Paper, 6½s 1946	95½	98*
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98½	...
Tait Paper & Color Industries, 6s 1934	90	95
Taggart Bros. Co., 6s 1944	94	97
Ticonderoga Pulp & Paper, 5s 1930	95	98
Ticonderoga Pulp & Paper, 6s 1940	99	101
Warren (The S. D.) Company, 6s 1945	99	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	Wanted	...
Whitaker Paper, 7s 1942	106	108
Witmer-Parsons Pulp & Lbr. (Units)	63	70

STOCKS	BID	ASKED
Advance Bag & Paper, 8% Pfd.	97	100*
Am. Tissue Mills, 7% Pfd.	95	100
British Columbia P. & P., Pfd.	65	70
Brompton Pulp & Paper, 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Champion Fibre, 7% Pfd.	105	...
Diem & Wing, 7% Cum. Pfd.	87	...
Donnaconna Paper, Com.	58	...
Donnaconna Paper, Pfd.	95	100
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper (new)	62	65
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	150	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	80	85
Midwest Box Co., Pfd. 6%	55	65
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	170	——
Oxford Paper Co., Pfd.	175	——
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	104	...
Rubberoid Company	85½	87½
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	100½	102½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	58	63
West Virginia Pulp and Paper, Pfd.	97	102
Whittaker Paper, 7% Cum. Pfd.	97	103

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	47.50	@50.00
Straw	53.50	@57.50
Chip	45.00	@50.00
Binders' Boards	70.00	@75.00
Sgl. Mla. Ll. Chip.	55.00	@57.50
Wood Pulp	80.00	@85.00
Container	65.00	@70.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	27.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.50	@ 4.50
Easy Bleaching	2.85	@ 3.10
No. 1 strong unbleached	2.50	@ 2.75
Mitscherlich unbleached	2.65	@ 3.40
No. 2 strong unbleached	2.40	@ 2.55
No. 1 Kraft	2.70	@ 2.90
No. 2 Kraft	2.50	@ 2.60
Sulphate—		
Bleached	3.75	@ 4.00

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.85	@ 3.05
News Sulphite	2.50	@ 2.70
Mitscherlich	3.25	@ 3.70
Kraft (Domestic)	2.70	@ 3.40
Soda Bleached	3.50	@ 3.75
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.85

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	11.50	@12.00
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.25	@10.75
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.50	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.00	@ 5.50
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.75	@ 6.50
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.60	@ 1.70
No. 1	1.60	@ 1.70
No. 2	1.35	@ 1.45
No. 3	1.25	@ 1.35
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.75	@ 8.50
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.25	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.70	@ 1.75
Dark Cottons	1.55	@ 1.60
Shoppery	1.50	@ 1.55
French Blues	2.25	@ 2.50

Old Rope and Bagging

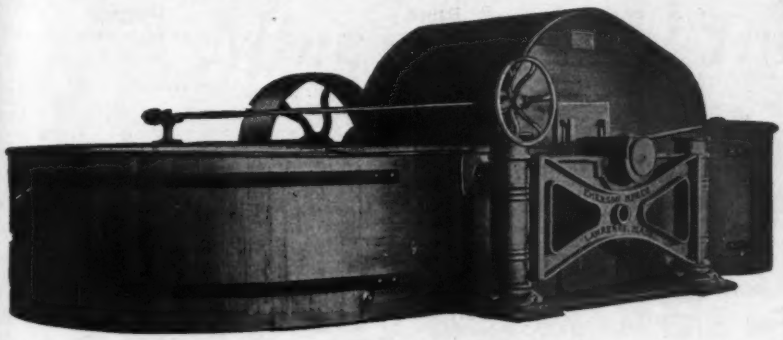
Prices to Mill f. o. b. N. Y.

Gunny No. 1—		
Foreign	1.80	@ 1.90
Domestic	1.80	@ 1.90
Wool Tares, light	1.60	@ 1.70
Wool Tares, heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.25	@ 3.75
Domestic	4.25	@ 4.75
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.35
Hard, White, No. 2	2.75	@ 2.90
Soft, White, No. 1	2.75	@ 2.90
Flat Stock—		
Stitchless	1.25	@ 1.35
Overissue Mag.	1.25	@ 1.35
Solid Flat Book	1.15	@ 1.25
Crumpled No. 1	.80	@ .90
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.65	@ .75
Container Board	.50	@ .55
Bogus Wrapper	.70	@ .80
Old Kraft Machine Compressed bales	1.90	@ 2.00
News—		
No. 1 White News	160	@ 1.65
Strictly Overissue	.60	@ .70
Strictly Folded	.47½	@ .52½
No. 1 Mixed Paper	.37½	@ .42
Common Paper	.25	@ .30



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Daily Capacity 425 TONS

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Twines

F. o. b. Mill

Cotton—			
No. 1	.28	@	.29
No. 2	.26	@	.27
No. 3	.24	@	.25
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¾	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue—24x36 Sheet	.07	@	.07¾
White Tissue—20x30 sheet	.07¾	@	.07½
Boards, per ton—			
(Delivered Central Territory—			
Plain Chip	45.00	@	47.50
Solid News	47.50	@	—
Manila Line Chip	55.00	@	57.50
Container Lined—			
(Delivered Central Territory)—			
85 Test	65.00	@	70.00
100 Test	70.00	@	75.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	2.70	@	2.80
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.30	@	2.40
No. 1 Mixed	1.35	@	1.45
No. 2 Mixed	1.05	@	1.10
Ledger & Writings	1.45	@	1.60
Solid Books	1.20	@	1.30
Blanks	1.30	@	1.40
Krafts	1.80	@	1.90
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.80	@	.90
Folded News (oversisue)	.35	@	.47
Old Newspapers—			
No. 1	.55	@	.60
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.35	@	.40
Roofing Stocks—			
F. o. b. Chicago, net cash			
No. 1	30.00	@	—
No. 2	28.00	@	—

BOSTON

Paper

F. o. b. Mill

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¾	@	.06½
No. 2 Kraft	.04¾	@	.05¾
Common Bogus	.02	@	.02½
Delivered New England points			
Straw Board, rolls	.009		57.50
Straw Board in Sheets, basis 35s to 70s			53.50
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	75.00	@	82.50
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mills)			
Tarred Felts—			
Regular, carload lots	65.00	@	—
Old Kraft	1.75	@	1.90
No. 1 Old Manila	1.40	@	1.60
No. 1 Mixed Paper	.45	@	.50
Print Manila	.70	@	.80
Overissue News	.55	@	.60
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.60

Old Papers

F. o. b. Boston

Shavings—			
No. 1 Hard White	3.15	@	3.30
White Blank News	1.40	@	1.50
Manila Env. Cuttings	2.00	@	2.25
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.85	@	3.00
No. 1 Soft White	2.75	@	3.00
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.00	@	2.25
No. 1 Books, Heavy	1.17½	@	1.30
No. 1 Books, Light	—	@	1.15

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.60
Manila Rope—			
Foreign	3.50	@	3.75
Domestic	4.00	@	4.37½
Mixed Rope	1.05	@	1.15
Scrap burlaps	1.35	@	—
Wool Tares, heavy	1.40	@	1.60
Mixed Strings	.90	@	1.05
New Burlap Cutting	2.15	@	2.35

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.11¼	@	.11¾
Silesias, No. 1	.07	@	.07½
New Unbleached	.10	@	.10½
Fancy	.05¼	@	.06
Washable	.04½	@	—
Cottons—According to Grades—Blue—			
Blue Overalls	—	@	.07
New Black, soft	.04	@	.04¼
Khaki Cuttings	.05	@	.05½
Corduroy	.03	@	.03½
New Canvas	.09	@	.10

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.12½	@	2.37½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.50	@	1.60
No. 2	1.38	@	1.48
No. 3	.96	@	—
No. 4	1.10	@	—

PHILADELPHIA

Paper

F. o. b. Mill

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¾	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¾
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	45.00	@	50.00
Chip Board	40.00	@	42.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	58.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05¾
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05¾	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging

F. o. b. Phila

Gunny, No. 1—			
Foreign	2.00	@	2.25
Domestic	1.75	@	2.00
Manila Rope	3.50	@	4.00
Sisal Rope	1.25	@	2.00
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.50	@	1.65
Wool Tares, heavy	3.00	@	3.50
Mixed Strings	1.25	@	1.35
No. 1, New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.25	@	2.50

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3:50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.80	@	.85
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.75	@	.80
Old Kraft	2.00	@	2.20
Common Paper	.40	@	.50
No. 1 Mixed Paper	.50	@	.60
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.75	@	.80
Old Newspaper	.50	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02½	@	.03
Miscellaneous	.02	@	.02¾
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.50	@	1.75
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.50	@	1.60
No. 2	1.37½	@	—
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	.90	@	1.00
B	.80	@	.90
C	.80	@	.90

TORONTO

Paper

F. o. b. Mill

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (Carloads)	3.25	@	—
Sheet (carload)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground wood	28.00	@	30.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	78.00	@	80.00
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	3.00	@	—
White Blk, News	1.40	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.47½	@	.52½
No. 1 Mixed Paper	.37½	@	.42

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.12	@	.12½
Fancy Shirt Cuttings	.06	@	.06¼

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HELP WANTED

BOSS MACHINE TENDER for a Canadian Kraft Mill making M. G. and M. F. papers. Address, Box 27-449, care Paper Trade Journal. A-25

MACHINE AND BACKTENDERS WANTED; also an experienced millwright machinist, for a small mill located in Western New York making chip board and specialties. Two tours. Must have references. Good advancement for competent workers. State age, references and salary expected in first letter. Address, Box 27-450, care Paper Trade Journal. A-11

WANTED—Paper mill superintendent familiar with news print and wrapping paper operations; one experienced on high speed machines. State age, education. Address, Box 27-451, care Paper Trade Journal. A-11

WANTED—Experienced roofing dry felt mill superintendent for 72" single machine in Ohio. Must be able to produce. Give reference, age and experience. Address, Box 27-452, care Paper Trade Journal. tf.

WANTED—Experienced machine tender for container board mill; mill working two tours; wages 80c per hour. In answering state age and experience; references required. Address, Box 27,428, care Paper Trade Journal. A-11

IF YOU are open to overtures for new connection, and qualified for a salary between $2,500 and $25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standing and reputation, through which preliminaries are negotiated confidentially for positions of the calibre indicated. The procedure is individualized to each client's personal requirements; your identity covered and present position protected. Established sixteen years. Send only name and address for details. R. W. Bixby, Inc., 117 Downtown Building, Buffalo, New York. tf.

NIGHT SUPERINTENDENT for large wax paper plant, Middle West. Must be especially well acquainted with all details manufacturing bread wrappers. Permanent well-paying position. Strictly confidential. Address, Box 27-444, care Paper Trade Journal. A-18

GET THE JOB you want through National Service, 10 Murray Street, New York. tf.

WANTED—Superintendent for up-to-date paper board mill, making combination board. Give experience, age and references. Good position for right man. Address, Box 27-448, care Paper Trade Journal. A-18

HIGH-CLASS DRAFTSMAN, capable of taking full charge of mill engineering problems, wanted for pulp and paper mill in Virginia. Give references; state experience and salary expected. Address, Box 27-446, care Paper Trade Journal. A-18

WANTED—Sales manager for fine stationery organization. Address, Box 27-459, care Paper Trade Journal. A-11

HELP WANTED

WANTED—First-class cylinder tissue machine tenders, top felt. Must be sober men; reference required. Address, Box 27-461, care Paper Trade Journal. A-25

AN EXCEPTIONAL OPPORTUNITY for the right man. Must have knowledge of paper and paper boards, to take charge of mill department and correspondence. State age, past experience and other details. Address, Box 27-436, care Paper Trade Journal. A-25

PAPER TRADE readers find our Service effective in making connections. Individual. Confidential. Personally planned by Jacob Penn, known by all mill owners. Not agency. Jacob Penn, Incorporated, 9 Park Place, New York. tf.

PULP MILL MANAGER WITH CAPITAL—By small group of men in community ideally located for manufacture of sulphate or sulphite pulp. Pacific Northwest location. No stock selling. Reply stating experience, references, salary expected, and capital available for initial construction of 50-ton mill with rail and water transportation. Address, Box 27-439, care Paper Trade Journal. A-11

SITUATIONS WANTED

TOUR BOSS wishes position. Experienced on most all kinds of paper, also glassine and greaseproof. Address, Box 27-433, care Paper Trade Journal. A-11

ASSISTANT SUPERINTENDENT—College graduate, chemist, nine years practical experience and research in rag fine writing papermaking and specialties, desires position with opportunity for advancement. Address, Box 27-320, care Paper Trade Journal. tf.

SUPERINTENDENT OR ASSISTANT—Energetic man, 33, married. Familiar with cylinder and Fourdrinier specialties, Kraft, bag, envelope, offset, manilas, bonds. Well up on colors. Technical training. Now employed, desires to change. References. Address, Box 27-429, care Paper Trade Journal. A-18

MANAGEMENT of small board mill or production manager of large concern, as I will soon be released from my present duties. I am a young man with good record, years experience and proven ability. If you are not satisfied with your production, quality, or the return on your investment, I can help you if given a chance. Address, Box 27-456, care Paper Trade Journal. A-18

CHEMICAL ENGINEER, Scandinavian, 9 years experience in operation of sulphite mills in Canada and Scandinavia, desires position as superintendent or similar position in Canadian mill. Address, Box 27-457, care Paper Trade Journal. S-1

SITUATIONS WANTED

BOOKKEEPER—Experienced voucher system. Capable making financial statement. Full charge, or act as assistant. Address, Box 27-453, care Paper Trade Journal. A-18

EXPERIENCED SALESMEN on coarse grades and specialties, well acquainted with buyers, desire direct mill selling connection. Best references. Address, Box 27-455, care Paper Trade Journal. A-18

SHIPPING CLERK—Experienced finishing room, and follow up orders. Address, Box 27-454, care Paper Trade Journal. A-18

BOSS FINISHER desires position in a progressive up-to-date mill. 15 years experience in very good mills on wrapping, book, bond, tissue and news. Single, duplex cutters, layboys, winders, ream cuteers; shipping clerk, mill office work. References. Address, Box 27-447, care Paper Trade Journal. A-25

WOULD LIKE POSITION as machine tender on cylinder machine. Have had twenty years experience. Am 42 years old, married, and can give best of references. Address, Box 27-458, care Paper Trade Journal. A-11

COULD YOU use the services of a man knowing the paper industry and the raw materials and supplies used in it? Will consider bigger sales connection. Address, Box 27-445, care Paper Trade Journal. tf.

PAPER MILL SALES REPRESENTATIVE—Seeking representation for New York City and adjacent territory for mills making coated book, litho, supercalendered, machine finished, offset, high bulking book, sulphite bond, cover. Wide selling experience, knowledge of paper merchants specializing in the sale, and direct consumers of these papers, combined with an understanding of manufacturer's viewpoint and procedure. Address, Box 27-441, care Paper Trade Journal. A-11

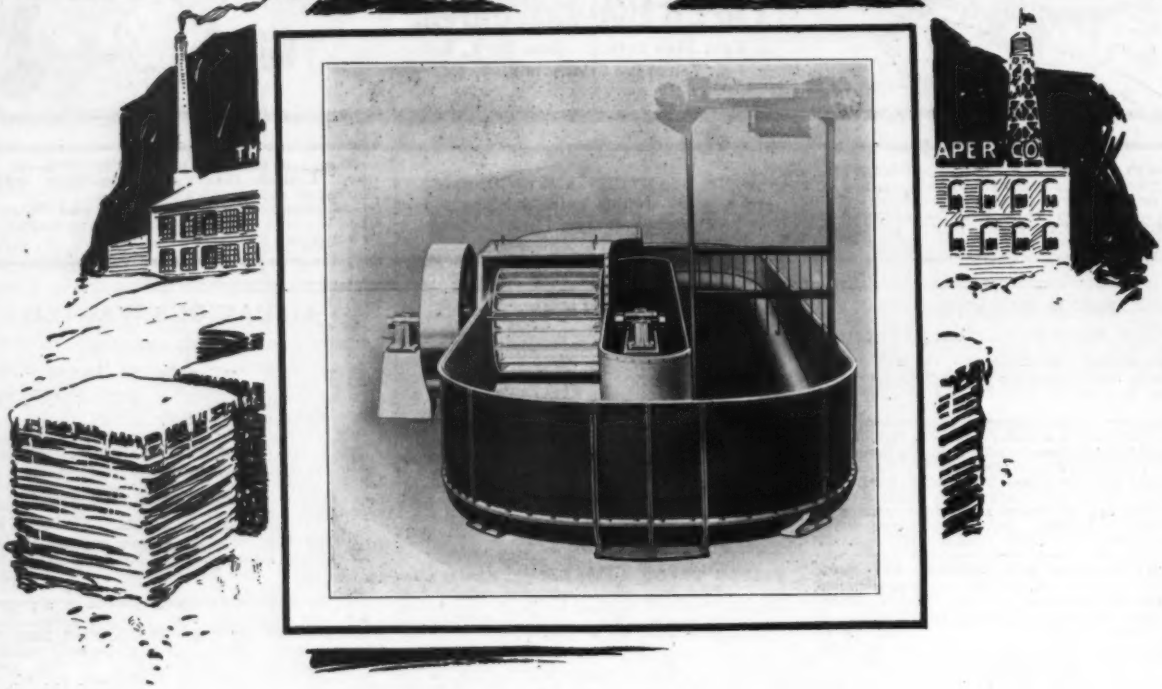
PAPER MILL SUPERINTENDENT—Trained on M. F. and M. G. Kraft and Sulphite papers, over various grades. Best of references. Address, Box 27-393, care Paper Trade Journal. S-8

GROUND WOOD FOREMAN and Millwright open for position. Best of references. Familiar with electrical equipment. Address, Box 27-346, care Paper Trade Journal. A-11

PAPER SALESMAN with twelve years experience seeking position as Chicago representative for manufacturer of fine papers. Address, Box 27-352, care Paper Trade Journal. tf.

PAPER BAG MANUFACTURERS!—Can you use the services of a man with 10 years experience, who for five years has been superintendent or manager of one of the larger paper bag plants; who can if necessary build and organize a new plant to operate efficiently; whose experience covers all types of machine made bags as well as hand made bags, also the printing of both; who will go anywhere providing future is assured if he can produce? Address, Box 27-460, care Paper Trade Journal. A-11

FrozenLaps



The Shartle Breaker will easily handle frozen laps. It will do away with a shredder and alone reduce your pulp to a satisfactory consistency. You can then pump stock direct to your secondary beaters and keep them operating at full efficiency—at the same time effecting a tremendous saving in labor.

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Shartle Brothers Machine Company

MIDDLETOWN, OHIO

SHARTLE BROTHERS

DIVISION OF THE BLACK-CLAWSON COMPANY

Shartle **Breakers**

WANTED

WANTED—2 W. & P. Pulpers, 2 Filter Presses and 1 Rogers Wet Machine. Address, Box 27-285, care Paper Trade Journal. tf.

TO PAPER MILLS PURCHASING PULP. If you are interested in securing a steady supply of pulp at a low price and will join us in the building of a mill on a site we own, having deep water and rail connections, where pulp wood can be secured for $2.00 per cord delivered at mill, and the best water, by actual test, for paper making in abundance, will be pleased to hear from you and to send you our proposition which we know will interest you. Address, Box 27-411, care Paper Trade Journal. A-11

WANTED—Hamblet Sheeter, 52" with 6" roll stand. Mid-States Gummed Paper Co., 2433 So. Robey St., Chicago, Ill. A-18

WANTED—One used Schopper Paper Tensile Tester. Diamond State Fibre Co., Bridgeport, Penna. A-11

MISCELLANEOUS

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WILL MAKE AN ATTRACTIVE PRICE to some responsible party who can take 1,872 tons per year of either of the following grades of paper: Tag or light chip board of building paper. Address, Box 27-442, care Paper Trade Journal. A-18

SEND YOUR ODD LOT LIST of coarse and fine papers together with samples to Goldman Paper & Paper Stock Co., 414 So. Front Street, Philadelphia, Pa. tf.

WANTED—Mill ends and job lots in rolls or flats in any quantity, all grades. Also boards. Joseph Goldstein & Sons, 1302-9 N. Halsted Street, Chicago, Illinois. tf.

FOR SALE, or Junior Partnership—100% Straw-pulp (writing and printing paper), patent and process; successfully tested out in large quantities. Sample submitted. Inquiry solicited. Address, Box 27-463, care Paper Trade Journal. A-11

EXCHANGE—Would like to exchange 78" Hamblet sheeting machine for an 80" Langston Slitter. Address, Box 27-462, care Paper Trade Journal. A-11

FOR SALE

FOR SALE—Second-hand 1200 lb. wood tub N. & W. beater. In good condition. The Noble & Wood Machine Co., Hoosick Falls, N. Y tf.

FOR SALE—6 Used Jones Imperial Jordans, with bronze or steel fillings. Will sell "as is" or factory rebuilt. THE NOBLE & WOOD MACHINE CO., Hoosick Falls, N. Y. tf.

FOR SALE—One 64" Holyoke Paper Trimmer. Good condition. Address, Box 27-443, care Paper Trade Journal. A-18

FOR SALE—One Trimbey Automatic Consistency Regulator. In good condition. Used only a few months. Address, California Fruit Wrapping Mills, Inc., Box F, Pomona, Calif. A-11

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2—Swenson Vacuum Evaporators, Triple Effect, 3,300 sq. ft.

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1—Scott Triple Effect, 1,350 sq. ft.
1—Swenson Triple Effect, 1,750 sq. ft.
2—Swenson Triple Effect, 3,300 sq. ft.

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2—6' x 6' Oliver, Acid Proof.
1—8' x 8' Oliver, Acid Proof.

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1—Black-Clawson 96" trim, 2 cylinders, 22—42" dia. dryers, 108" face, press rolls, stack of calenders and double drum winder.

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1—72" Hamblet Single Cutter with 24 roll back stand.
1—84" Beloit heavy duty duplex.
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6—48" Moore & White Single Cutters.
1—57" Hamblet Duplex Cutter, Heavy Duty.

The Shartle Brothers Machine Co.,
Middletown, Ohio tf.

FOR SALE

1—72" Model 10 Cameron.

11—Dryers 48" x 110".

60" trim Black-Clawson Fourdrinier machine.

Several White cedar stuff chests, A-1 shape.

1—48"—3 cylinder machine.

1—70"—2 cylinder machine.

Several Chippers.

Four deck Beloit frames. These are modern and extra heavy.

One Ryther & Pringle Multiple Saw Slasher. Will cut 32'.

One Farrel Roll Grinder.

One No. 2 Lannoye Pulper.

One 61" Holyoke Super-Calender

The Shartle Brothers Machine Company
Middletown, Ohio tf.

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Suction Boxes 7.
Couch roll bottom 28" diameter, top 26" diameter.
1st Press Bottom roll rubber covered 26 x 163. Top roll Gunmetal 28 x 169.

2nd Press—same as 1st.

3rd Press Bottom roll Rubber Covered 26 x 163. Top roll Gunmetal covered 24 x 164.

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Dryers, 32—60" x 162" arranged for double deck.

Calender—Farrel stack 10 rolls
28" bottom.
20" top and next to bottom.
7—13" intermediates.

Reel—3 drum revolving 158" face.

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This is an A-1 modern Beloit machine, one of the best Beloit ever built.

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1—BAGLEY-SEWALL FOURDRINIER MACHINE.

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Couch rolls—Bottom roll 20" diameter, top roll 18" diameter.

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Winder—Warren.

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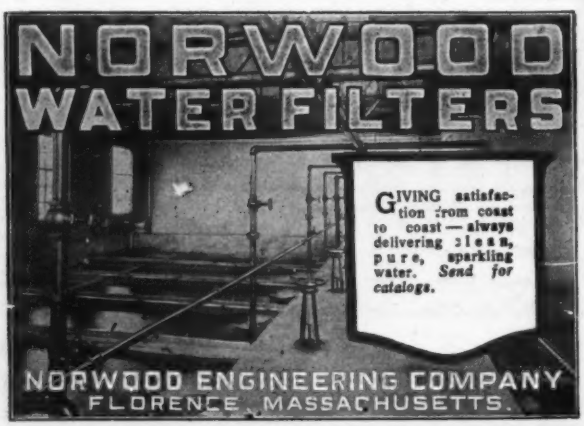
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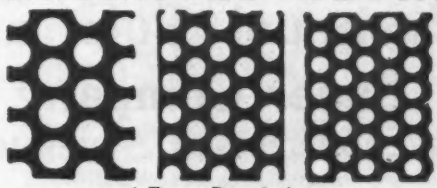

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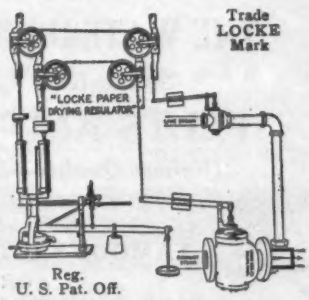

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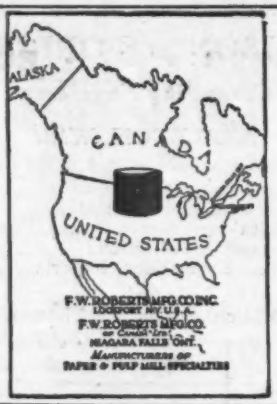

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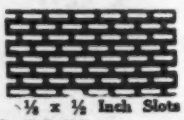
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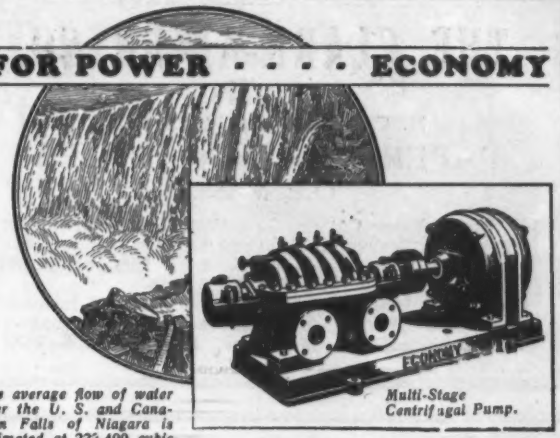

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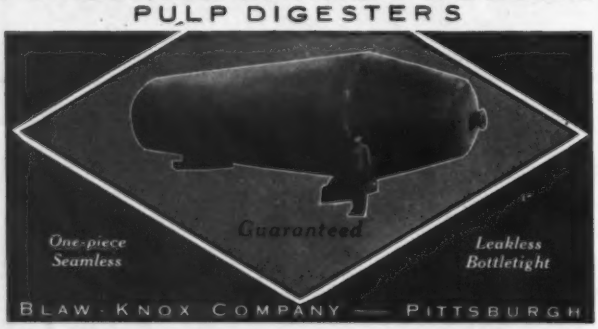

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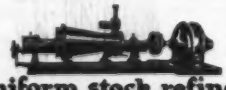

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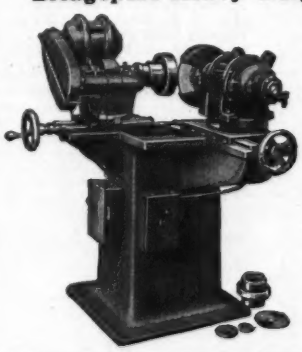

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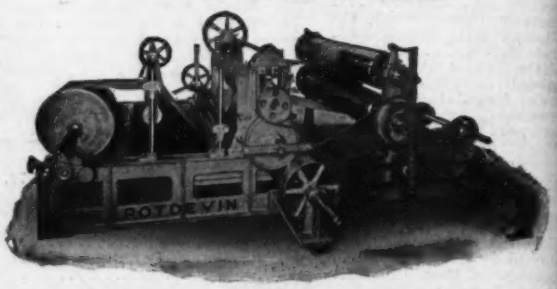

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